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2006

FINESSING THE DEAL
How to negotiate a better contract for software as a service. **PAGE 52**

BOARDROOM [illegible]
A probe of data leaks launched by HP Chairman Patricia Dunn sparks a furor, **PAGE 6**. Plus Frankly Speaking, **PAGE 66**

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Virtual BUILDING BLOCKS

General Motors is using 3-D technology to revolutionize the way it designs and builds factories, reports Robert L. Mitchell. It works so well that GM may add a fourth dimension. **PAGE 27**

NetBackup Poses Problems for IT Managers

Some putting off upgrades until year-old 6.0 release is fixed

BY SHARON FISHER

Problems with the latest version of Symantec Corp.'s Veritas NetBackup software are still keeping some users from rolling out the product almost a year after it started shipping.

Steve Bally, a systems engineer at RadiSys Corp., a Hillsboro, Ore.-based maker of embedded computer systems, is postponing a full rollout of the new version of NetBackup until Symantec fixes problems with its vault service.

"The vault service won't start," Bally said, adding that the glitch prevents his company from performing tape duplication or sending backups off-site. The vault service automates tape rotation.

Bally characterized NetBackup 5.1, which he continues to use, as "solid" but said he wants to fully roll out Version 6.0 to gain access to new capabilities, such as the ability to restore Microsoft SharePoint Portal Server services.

Users said they hope that NetBackup 6.0 Maintenance Pack 4, which is slated to ship next month, will fix the problems in the software.

Version 6.0 of the backup

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IT Needs to Make Its Case For Security

Priority placed on facts, objectivity

BY JAIKUMAR VIJAYAN
BOSTON

IT managers should focus on explaining business risk, customer impact, regulatory requirements and due diligence when justifying the need for IT security investments to corporate executives.

IT and business managers at The Security Standard conference here last week also suggested that security personnel not use technology jargon or overstate the threats to their companies when proposing new projects to top executives.

"What we need from a CSO are facts, objectivity and some real clear recommendations" to demonstrate achievable returns on security investments, said Lawrence Kinsella, chief financial officer at London-based BT Global Financial Services' New York operation. "What we are not looking for is 'the sky-is-falling' FUD" — fear, uncertainty and doubt.

During a panel discussion at the conference, Kinsella added that security managers sometimes offer executives little reliable data to show that the projects they are pushing will truly mitigate future risks. And although traditional ROI estimates may not be required, security man-

> The most effective way to get more funding for security is to flunk an audit test.
>
> EDWARD AMOROSO, CSO, AT&T INC.

Security, page 14

Users Wonder If Microsoft Exec's Security Claims Are Trustworthy

BY JAIKUMAR VIJAYAN
BOSTON

Since Microsoft Corp. launched its Trustworthy Computing initiative in January 2002, the company has substantially improved the security of its products, its security chief said here last week.

However, some Microsoft users at The Security Standard conference were less charitable in their assessment of the company's progress. Most of those attendees concluded that it's too soon to deliver a verdict on Microsoft's security efforts.

During a panel discussion, Ben Fathi, corporate

Trustworthy, page 14

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_INFRASTRUCTURE LOG

_DAY 15: Our network's so complex it's impossible to manage. The bottlenecks and hotspots are out of control. We're not proactive at all; we're just reacting. Help!

_Gil bought a crystal ball. He claims he can now peer into the future of our infrastructure. Oh, please...

_DAY 17: I see a better way: IBM Tivoli middleware. It gives us a holistic view of the infrastructure and analyzes the relationship between our apps, systems and networks. Fixes problems proactively for more uptime, more storage availability, more time to think big picture. Plus, it's open, modular and scalable.

_Gil says he foresaw all that too but forgot to tell us.

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Windows Vista RC1 Visual Tour

OPERATING SYSTEMS: Get a sneak peak at many of the key aspects of Microsoft's next-generation operating system, as *Computerworld.com*'s Scot Finnie takes you through Vista Release Candidate 1.

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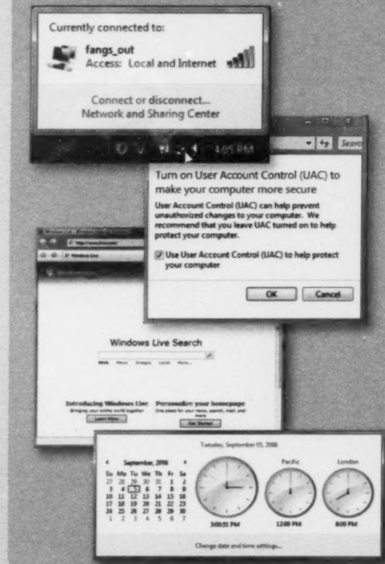

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User Account Control (UAC) can help prevent unauthorized changes to your computer. We recommend that you leave UAC turned on to help protect your computer.

☑ Use User Account Control (UAC) to help protect your computer

Tuesday, September 05, 2006

Antispyware Tips

SECURITY: Readers respond to the article "My Battle With Spyware" with tips, comments and strategies of their own.

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_INFRASTRUCTURE LOG

_DAY 12: No one can get real-time answers. No one can collaborate. Unmanaged public IM is a security nightmare.

_Gil brought in a "collaboration accelerator." I said it looks like a cannon. He said I had a small mind.

_DAY 14: The answer: IBM Lotus® Sametime® 7.5. It's not just IM and Web conferencing, it's an affordable platform for running the business in real time. It's encrypted. Has tons of features like VoIP and location awareness. And it works seamlessly with leading public IM networks. Everyone has real-time answers now.

_We've even recovered most of our employees.

Download the Lotus Sametime 7.5 demo at:

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AT DEADLINE

Suit Over Target's Web Site to Continue

A federal court in San Francisco has rejected Target Corp.'s motion to dismiss a lawsuit filed by the National Federation for the Blind that calls on the retailer to make its Web site accessible to blind people. A request for a preliminary injunction ordering Target to promptly make its Web site accessible was also denied. The class-action lawsuit charges that the Web site's inaccessibility to the blind violates various federal and state statutes.

Microsoft to Patch Windows, Office

Microsoft Corp. tomorrow is set to release three security updates for its Windows and Office products. One of the updates, to patch a flaw in Office, is rated "critical." The other two, which fix problems with Windows, are rated no higher than "important," Microsoft said. The company did not reveal whether the patches include a fix for a Word 2000 flaw disclosed by Symantec Corp. last week.

JPMorgan Chase CIO Adams to Retire

Austin Adams, who gained attention in 2004 for canceling a $5 billion outsourcing contract with IBM, is retiring as CIO of New York-based JPMorgan Chase & Co. next month. Adams, 63, oversees a $7 billion annual technology budget and 19,000 IT staffers worldwide. He also sat on the financial services firm's 15-member operating committee.

Capgemini Buys 51% of Indian Firm

Capgemini has agreed to acquire a 51% stake in Unilever India Shared Services Ltd., an Indian finance and accounting business process outsourcing operation, for an undisclosed sum. Baru Rao, CEO of Capgemini India, said the purchase is the first step in his company's effort to acquire all of the Indian firm from Unilever by 2008.

Probe of Data Leaks at HP Ignites Controversy

Company says 'pretexting' used to investigate board members, reporters

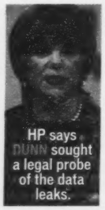
BY CHINA MARTENS AND PATRICK THIBODEAU

A FUROR ERUPTED last week over Hewlett-Packard Co.'s acknowledgment that private investigators probing media leaks from the company's board of directors had accessed the personal phone records of some board members and of nine reporters who cover HP.

The California attorney general's office said it had launched an inquiry into the events at HP to determine whether any state laws were broken as part of Chairman Patricia Dunn's covert effort to unmask the director who leaked information about a strategy meeting to the press.

In a filing submitted to the U.S. Securities and Exchange Commission last Wednesday, HP confirmed that the external investigators in some cases had used "pretexting" — a controversial method of obtaining an individual's telephone calling records by pretending to be that person.

In the past two years, at least 10 states have passed laws imposing sanctions on pretexting, said Joseph Sanscrainte, an attorney at Bryan Cave LLP in New York. California's state legislature recently passed a bill that would outlaw the practice; Gov. Arnold Schwarzenegger has until month's end to decide whether to sign or veto the bill.



HP says DUNN sought a legal probe of the data leaks.

HP said in its SEC filing that Dunn had told the investigators she hired to check the leaks lawfully and that HP's outside counsel had advised it after reviewing the situation that pretexting wasn't generally illegal at the time it was employed.

However, the counsel also told HP he couldn't confirm that the investigators had "complied in all respects with applicable law," according to the filing. The company said it would cooperate fully with the state attorney general's office on its inquiry.

On Thursday, HP sent the attorney general a list of nine reporters whose telephone records were also obtained by the investigators. An HP spokesman said company officials were "dismayed that the phone records of journalists were accessed without their knowledge."

HP's best course of action is "complete transparency," said C. Hunter Wiggins, a partner at Chicago-based law firm Sonnenschein Nath & Rosenthal LLP. "Admit that it was a business blunder — but it's essentially an internal issue — and do everything they can to discourage prosecutions."

The brouhaha stemmed from the sudden resignation of Silicon Valley venture capitalist Thomas Perkins from HP's board in May. At the time, HP provided no reason for his resignation. But according to last week's SEC filing, Perkins resigned because of what HP described as his "personal frustration" with Dunn's handling of the leak probe.

Perkins, though, viewed his resignation as a matter of disagreement with HP's policies — which meant HP was required to disclose the reasons for his departure to the SEC. In June, Perkins — whose personal phone records were allegedly accessed via pretexting — asked HP to investigate the propriety of such techniques. Later, he sent a letter to the company's board threatening to go public about his reasons for resigning if HP didn't update its original SEC filing about his departure.

In last week's 8-K filing, HP said it thinks the May disclosure of Perkins' resignation was "accurate and complete at the time of filing."

The probe of the board-level leaks revealed that George Keyworth, an HP director since 1986, had been disclosing confidential information about board deliberations and other matters to the media, the company said. At the May 18 board meeting at which Perkins resigned, Keyworth acknowledged that he had leaked information and was asked to step down, which he refused to do, HP said.

Keyworth's time on the board may be drawing short, though. HP said in the SEC filing that at a meeting on Aug. 31, the board voted not to nominate him for another term because of his conduct.

Martens writes for the IDG News Service.

HP Expands Integrity Line, Virtualization Capabilities

HEWLETT-PACKARD CO. last week upgraded and expanded its Integrity server line, adding two low-end models and increased virtualization support that it hopes will make the systems more attractive to Windows and Linux users in addition to its primary HP-UX customer base.

It was the first major update in about 18 months for the Integrity line, which is based on Intel Corp.'s Itanium 2 processor. One of the new features, due later this year, will enable Windows to run natively in a virtual environment on shared processors. Next year, HP plans to add native virtualization support for Linux and OpenVMS, which both also run on the Integrity servers.

"This is an industry-standard server that runs four operating environments," said Joe Nadler, HP's vice president of business-critical servers and high-performance computing for the Americas. Integrity has never exclusively been a Unix system, Nadler said. But getting that message across to potential users has been difficult, he added.

HP claims that about 9,000 applications can run on Integrity systems and that large software vendors such as Oracle Corp. are broadening their support for the product line.

But more than that may be needed. Integrity user Doug Burak, server network security manager at Bucks County Community College in Newtown, Pa., said he can't run all the Windows-based applications that he would like to on his systems. He pointed in particular to a data backup and recovery application from Symantec Corp. that he uses on x86-based Windows servers.

Burak has six Integrity servers, one of which runs Windows Server 2003 and supports file and print operations. Although Burak spoke highly of Integrity's Windows performance, he may consider switching to an x86 hardware platform if he feels that support for Windows applications is lacking on HP's hardware.

"Don't get me wrong. I love Itanium," Burak said. "But I'm also a realist."

Gordon Haff, an analyst at Illuminata Inc. in Nashua, N.H., predicted that Integrity will continue to be seen by users as predominately a Unix platform. "But there is some value to being able to mix and match [operating systems] within a single box," he said.

HP also said it's upgrading the Integrity systems to the latest dual-core Itanium 2 processor. In addition, HP added a pair of low-end Integrity models, the rx3600 and rx6600, which support two and four physical processors, respectively.

– PATRICK THIBODEAU

_INFRASTRUCTURE LOG

_DAY 33: Our information is siloed. Unmanageable. People can't access the latest info to make decisions. Gil's resorted to giving everyone access to everything all at once.

_Monitors now outnumber humans 18 to 1.

_DAY 36: It's clear to me. We need an IBM Information On Demand middleware solution. Info will be liberated from the silos—available when we need it, whatever the format. Accurate and in context. Now we can make smarter decisions and deliver real business value.

_Access is a beautiful thing.

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Philadelphia, Oracle Strike Initial Deal on Stalled Systems Project

Agreement would add third-party software at no extra cost, city says

BY MATT HAMBLEN

PHILADELPHIA officials last week announced the signing of an agreement in principle with Oracle Corp. to restart the suspended rollout of a new water billing system called Project Ocean at no extra cost to the city.

The amended contract between the city and Oracle calls for the installation of additional utility billing software from another vendor to augment the applications in the original version of the system, said City Solicitor Romulo Diaz Jr.

"We'll have the functionality that the city requires and be able to meet budget requirements," Diaz said. City officials now expect the billing system to be up and running sometime next fall, he added. That would be about three years later than the city had originally envisioned.

Cost Remains the Same

It wasn't specified last week that Oracle would pick up the tab for the additional software. But outgoing Philadelphia CIO Dianah Neff said the project is still expected to cost the city about $18 million — the same amount that was cited last month, when Neff said that local officials were negotiating with Oracle in an attempt to revive Project Ocean.

Neff and other city officials wouldn't identify the vendor of the new billing software, saying they wanted to wait until the amended contract is finalized. But Neff, who left her job in Philadelphia last Friday to do consulting on municipal wireless networks, said the software is a well-known product that the city has already evaluated and found to be workable. The vendor is one of Oracle's recognized business partners, she added.

Neff also defended the system's $18 million price tag, which is about double what the city anticipated it would be when Project Ocean was conceived in 2003. Neff claimed that based on the industry average for a modern utility billing system, the cost of installing one that's capable of serving Philadelphia's 600,000 water customers could be expected to exceed $32 million.

NEFF says city officials hope the deal with Oracle "ends the political turmoil" around Project Ocean.

"We certainly hope the [agreement in principle] ends the political turmoil," Neff said. "It has taken longer than hoped, but we've come up with a very good solution that allows us to move forward."

She claimed that the Mayor's Office of Information Services took over Project Ocean when troubles developed and "got the full blame for problems, which was a little irritating."

Neff stopped work last October on Project Ocean, which was designed to replace a 30-year-old, custom-built billing system. Terry Phillis, who has been named Philadelphia's acting CIO, said last week that the suspension order will remain in place until the contract amendment is finalized, which is expected to occur within two to three weeks.

Oracle officials didn't respond to requests for comment by press time last week. In August, a company spokeswoman said that Project Ocean was still in progress and that Oracle would deliver on its obligations to complete the applications rollout.

Neff said last month that the problems with the software implementation stemmed from a combination of technical complexities, Oracle's inexperience at building such a system, and the departures of several project managers and executive sponsors who were overseeing the deployment.

Later this month, Neff plans to start work at Civitium LLC, a consulting firm in Alpharetta, Ga., that specializes in municipal wireless networks. Neff, who was the driving force behind a plan to develop a citywide wireless network in Philadelphia, is leaving City Hall after five years as CIO — the longest term anyone has spent in that position.

Philadelphia Mayor John Street has asked the city's ethics board to review Neff's hiring by Civitium, which previously did work related to the city's planned wireless network under two separate contracts. Neff last week reiterated that she isn't concerned about the probe. "There was nothing wrong with my decisions," she said. "Anybody who knows me knows I'm a very ethical person." ▸

Correction

The last name of Humana Inc. CEO Michael McCallister was misspelled in last week's cover story ("Speedy Recovery") about the Louisville, Ky.-based health insurer's use of the Web and other technologies to manage its Medicare Part D prescription plans and drive a new business growth strategy called Perfect Service.

Supercomputing Slow to Win Over Supply Chains

Despite market pressure, adoption hurdles remain

BY PATRICK THIBODEAU
WASHINGTON

Over time, competitive pressure may force many manufacturers to turn to high-performance computing (HPC) for product design and testing. But it could be years before the kind of systems used now by companies such as Wal-Mart Stores Inc. and The Procter & Gamble Co. get broadly adopted within supply chains.

Wal-Mart, P&G and other large users have no problem pointing to the benefits of high-performance systems in bringing products to market and helping them manage their business operations. Nonetheless, attendees at a conference here last week said that major barriers remain to widespread use of the technology.

The list of hurdles they cited includes the lingering presence of legacy code that hasn't been adapted for newer, low-cost hardware; a lack of IT workers with the right skills; and the inability of many smaller companies to afford high-performance systems. Middleware for adapting complex computational codes to broader business uses was also cited as a need.

Thomas Lange, director of the modeling and simulation program in P&G's corporate research and development unit, said high-performance systems aren't being widely used outside of automotive and aerospace supply chains. The lack of adoption applies to P&G's own supply chain partners, he said.

Lange and other proponents at last Thursday's third annual High Performance Computing Users Conference said they hope that increasing pressures on companies to bring new products to market faster and squeeze out costs will help usher in broader use of HPC technology.

"We're not going to set criteria [for suppliers] to use HPC," Lange said. "We're going to use the standard market forces that are present."

Helping Hands

Large companies that already use supercomputers and other high-performance systems may also play a role in helping their supply chain partners move to similar machines.

For instance, Wal-Mart is aiding its suppliers on HPC issues on an "as-needed basis," said Nancy Stewart, the retailer's chief technology officer. In one case, Wal-Mart used its own HPC techniques and technology to provide assistance to a needy supplier, Stewart said.

Aircraft engine maker Pratt & Whitney works with its suppliers on HPC issues as well. But it also pays a lot of attention to determining whether the people who have access to high-performance tools "actually have the ability to use them," said Jayant Sabnis, chief engineer for systems analysis and aerodynamics at the East Hartford, Conn.-based company. If the technology isn't used correctly, the product design consequences can be disastrous, he said.

Last week's conference was sponsored chiefly by the Council on Competitiveness, a Washington-based industry group. The council thinks high-performance computing is vital to the ability of the U.S. to compete globally.

Deborah Wince-Smith, the council's president, acknowledged the problems that are hindering adoption of high-performance systems. But she said that broader use of the technology "will accelerate the nation's economic potential." ▸

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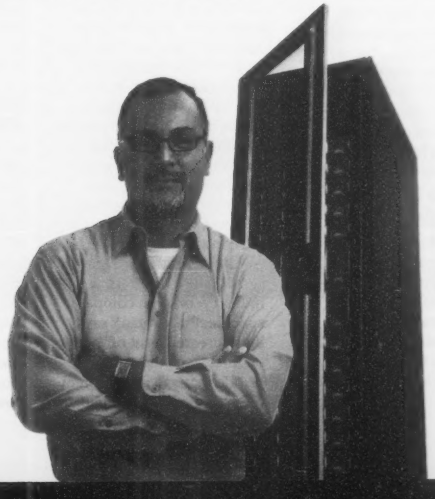

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BRIEFS

Intel to Cut 10,500 Jobs by Mid-2007

Intel Corp. has announced plans to lay off 10,500 employees by mid-2007. The company said it expects the restructuring to help it save $2 billion in expenses in 2007 and $3 billion annually in 2008 and beyond. Intel said it expects its workforce to drop to 92,000 worldwide by mid-2007, down from 102,500 at the end of the second quarter. Severance costs are expected to total approximately $200 million.

Microsoft Releases Vista Pricing Plans

Microsoft Corp. last week released a price schedule for the next-generation Windows Vista operating system, about a week after online retailer Amazon.com Inc. disclosed a pricing plan for the product on its Web site. Microsoft's suggested retail pricing for Windows Vista is $399 for Windows Vista Ultimate, $299 for Windows Vista Business, $239 for Windows Vista Home Premium and $199 for Windows Vista Home Basic.

i2 Charges SAP With Patent Infringement

i2 Technologies Inc. has filed a lawsuit accusing SAP AG of infringing on seven of the CRM software maker's patents. The suit, filed in a Texas federal court, alleges that SAP violated patents related to supply chain management models and tools in areas such as managing factory planning systems, negotiating and tracking the sale of goods, and allocating manufactured products to sellers. SAP said it is examining the lawsuit.

IBM, Cisco to Build Silicon Valley Net

The Wireless Silicon Valley Task Force has chosen a group led by Cisco Systems Inc. and IBM to build and operate a Wi-Fi wireless network throughout Silicon Valley. The agreement calls for Cisco to provide the infrastructure and IBM to be the systems integrator.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

New CIO?
Nope. CHIEF MARKETING OFFICER.
EUREKA!

MATTHEW FAULKNER

Math Wizards Untangle . . .

. . . complex business problems with IT equations. If you're trying to schedule thousands of dispersed airline crew members on hundreds of flights per day around the world, you need more than paper and pencil. And if you're trying to detect medical fraud among millions of insurance claims, your gut instinct probably isn't enough. As William Pulleyblank, vice president of IBM's Center for Business Optimization, puts it, "Sometimes you need black-belt mathematicians to solve the problem." Pulleyblank ought to know. He holds a doctorate in math from Waterloo University, and until last year, he ran IBM's Blue Gene project, which has produced some of the fastest supercomputers built thus far. Now, instead of scientific experiments, his calculations can affect a business's bottom line. But the computations are no less complex, he says. Although some of his team's work is industry- or even company-specific, Pulleyblank says it has created a set of "core engines," such as an entity profile management system (EPMS) that can find patterns in vast amounts of data on everything from fraud detection to tax compliance. Next year, IBM plans to deliver tools based on the algorithms used in EPMS, so marketers will "have a more cost-effective way to generate demand," Pulleyblank says. Great. Just what the world needs: marketers with math on their side.

PULLEYBLANK: Calculate to optimize.

Goin' .mobi might become . . .

. . . a speed bump in the data center. On Oct. 11, the Internet Corporation for Assigned Names and Numbers plans to clear the path for registering Web sites under the .mobi top-level domain, which is designed for lowest-common-denominator cell phones that are Internet-capable and support the Wireless Access Protocol. Some people expect a crush of applicants staking claims in the next hot Internet market. But Cornel Schnietz won't be among them. Schnietz is the chief technology officer at Cologne, Germany-based Content Management AG, which sells Web site management tools under the moniker CM4all. He argues that .mobi will be more of a burden than a boon. "The problem for most companies is that they will need to maintain two kinds of Web sites," Schnietz says — the one they run now, and one for mobile users. That's partly because you'll need to package information that can be read by mobile devices. More important, Schnietz contends, your content will need to be designed for end users on the go. For example, it's probably dumb to translate your entire product catalog to run on your .mobi servers, but adding text directions to all of your sales locations might be smart. Schnietz cautions that with such hassles facing IT, "acceptance is going to be slower than some rhapsodize about."

SCHNIETZ says .mobi will be a pain for IT.

When you've got a big file, you . . .

. . . might want to send it to someone else. But if it's too big, usually around 10MB, your Internet service provider is likely to stop you. If that happens, consider YouSendIt Inc.'s large-file mailing service, which the Mountain View, Calif.-based company will offer to business users this week. How large, you ask? Is 4GB enough? The service, which costs $20 per end user monthly, encrypts data that's in transit to YouSendIt's data center, then tracks who accesses the files. You can even design your company's YouSendIt drop box to look like your Web site. The company holds all files for seven days; storing them longer requires an extra fee. Later this year, YouSendIt will let you password-protect your stored files. Consumers have been using the free service for files of up to 100MB since 2003 and send an average of 1 million files per day, says company spokesman Florian Brody.

45MB
Average file size sent via YouSendIt.

IPv6 may not improve the performance . . .

. . . of Web applications. Gary Messiana, CEO of Netli Inc. in Mountain View, is concerned that Web site managers may hope the improved routing features and larger payload capacity of IP Version 6 will make their online apps perform better. Uh-uh, he says. IP isn't the problem. Messiana says the bottleneck is its partner, the Transmission Control Protocol (TCP). For example, he points to a basic 70KB Web page that requires TCP to handle 30 round trips from server to browser to complete loading. To get around that problem, Netli has set up 35 data centers worldwide and designed a proprietary alternative to TCP. Browser users connect to your site through the closest Netli facility via a standard Internet connection; from there, all data is transferred via the Netli protocol from an appliance housed in your data center. Messiana claims his company's protocol can deliver that 70KB Web page with only two round trips. Netli offers its technology as part of a service that starts as low as $3,000 per month for one Web site. ▸

MESSIANA: TCP has to work too hard to load Web pages.

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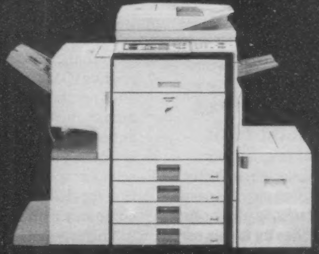

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BRIEFS

Symantec Discloses Flaw in Office 2000

Symantec Corp. last week warned of an unpatched flaw in the Windows 2000 version of Microsoft Office 2000 that is being used by attackers to run unauthorized software on victims' computers. Microsoft Corp. confirmed the bug but would not disclose its plans to fix the problem. Symantec said attackers are sending phony Word documents that are used to install malicious software.

Sybase to Acquire Messaging Service

Sybase Inc. has agreed to buy messaging service provider Mobile 365 Inc. for about $425 million in cash. Sybase expects the acquisition to help it offer managed services hosted on Mobile 365's global network. Sybase said the 330 employees at Mobile 365 will remain with the company after the acquisition. The acquired firm will become a subsidiary called Sybase Mobile 365. The deal is expected to close in the fourth quarter.

IBM to Build DOE Supercomputer

The U.S. Department of Energy has chosen IBM to build a new $35 million supercomputer, called Roadrunner, for its Los Alamos National Laboratory. The agency said Roadrunner could be used to monitor and maintain the U.S. nuclear weapons stockpile. It will run Version 4.3 of Red Hat Inc.'s Linux operating system.

Microsoft Licenses Data Mining Tech

Microsoft has licensed data mining technology from Digital Resolve Inc. that guards against phishing attacks, in which counterfeit Web sites try to gain personal information from unknowing victims. Digital Resolve's Trusted Server technology builds lists of Web sites and their legitimate IP addresses. It will be used in Versions 6 and 7 of Internet Explorer and in Windows Live Toolbar.

CA Broadens Integration Links, Database Support in Unicenter

Upgraded management software works with Microsoft's SQL Server

BY MATT HAMBLEN

CA INC. today plans to announce an updated release of its network and systems management tools featuring a new version of its central data repository built on top of Microsoft Corp.'s SQL Server.

Earlier releases of the Unicenter Network and Systems Management (NSM) software used the Ingres database, which CA sold last fall to an investment firm that set up Ingres Corp. as a separate company. CA will continue to offer Ingres with Unicenter NSM. But SQL Server will make the management tools more appealing to Windows users, said Ajei Gopal, general manager of CA's enterprise systems management unit.

Gopal said Release 11.1 of Unicenter NSM can also be integrated with other CA products, including its network performance and fault management tools, and with management software from vendors such as Microsoft and Hewlett-Packard Co.

Customer Appeal

Cody Lowder, information systems and technology manager at Zions Management Services Co., a division of Zions Bancorporation in Salt Lake City, said he began installing Unicenter NSM R11.1 two weeks ago to control a network that has about 2,000 servers.

Lowder said that he hopes new event-correlation features in R11.1 will "reduce [false] notifications and pinpoint root causes" of system problems.

Patrick Mannion, vice president of enterprise monitoring tools at Société Générale Group's Paris-based corporate and investment banking unit, said he plans to upgrade to the new Unicenter NSM release within the next year to support 1,300 servers and 66,000 other devices at 15 locations in North America.

Mannion said a new Web-based user interface will be an improvement for IT staffers, as will the stronger event-correlation capabilities and a reduced need to write custom code for the software.

Luis Hernandez, lead software systems specialist in technical services at the University of Texas Medical Branch in Galveston, has been using R11.1 in a test environment. Hernandez said it is "very possible" that he will roll out the software to manage more than 300 servers and 1,000 network devices by early next summer. One of the new features he likes is the easier integration with CA's other management tools.

Rich Ptak, an analyst at Ptak, Noel & Associates in Amherst, N.H., said the increased integration capabilities built into CA's new release should help IT managers working in mixed-system environments where applications and data are used across widely distributed networks.

Pricing starts at $2,000 for the software's manager component and $2,200 for each server or system component. ▸

SAP Updates Compliance, Risk Management Tools

BY MARC L. SONGINI

SAP AG last week brought out three new compliance tools as it expands its effort to help corporate executives stay in compliance with government regulations like the Sarbanes-Oxley Act and Basel II.

SAP officials said the new Governance, Risk and Compliance (GRC) products are built on a service-oriented architecture (SOA) to enable enterprisewide gathering, consolidation and presentation of relevant operational information for risk management and compliance efforts.

The products are coming out just a few months after SAP beefed up its compliance business with the acquisition of Virsa Systems Inc., a maker of risk management tools.

There is considerable interest among the SAP user base in SOA-based risk management and compliance tools, said Rod Masney, president of the Americas' SAP Users' Group. The use of SOA technology can ease the process of gathering the data needed to ensure compliance with regulations, he said.

Masney is also global IT architect at Owens-Illinois Inc., a Toledo, Ohio-based maker of packaging materials.

Owens-Illiinois uses Virsa compliance tools, and Masney said he is awaiting more details on how they will be integrated with SAP's new compliance products.

Doug Merritt, executive vice president and general manager of suite optimization at SAP, noted at a press conference last week that most companies now have functional silos that prevent employees in one unit from gathering data from another. Often, officials must gather data from multiple corporate units to ensure compliance with regulations.

SAP Risk Management

New tools, programs to ensure corporate governance

- **GRC Repository** documents, stores and maintains compliance information in a central system.
- **GRC Process Control** aggregates business process risks for the entire corporation and prioritizes corrective action.
- **GRC Risk Management** implements collaborative risk management processes that analyze key business risks.
- **Agreement with Cisco** to jointly market SAP governance, risk and compliance business processes, as well as Cisco IT control offerings.

He said the new SAP tools aim to automate the process of risk detection by using data gleaned from a variety of sources. The tools can also create proactive responses by using role-based dashboards, he added.

The new SAP offerings can help companies automate risk management and compliance processes and include the ability to issue alerts and route them to appropriate personnel in an organization, said Kathleen Wilhide, analyst at Framingham, Mass.-based IDC.

She noted that SAP is expanding its stable of compliance tools at the same time rival vendors are looking to tackle the same problems. For example, she said, Oracle Corp. is partnering with third-party vendors to create such offerings. Oracle is also embedding compliance technologies into its applications, she noted.

SAP did not disclose pricing for the three new applications.

The new SAP GRC Repository and SAP GRC Process Control will be available Nov. 30; SAP GRC Risk Management will ship in December. ▸

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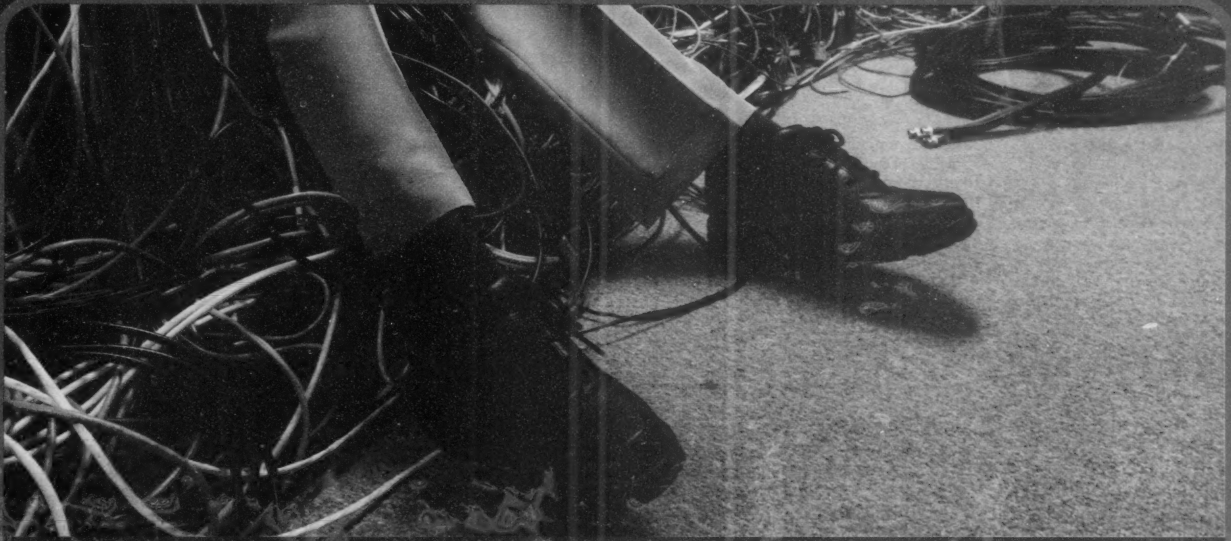

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Continued from page 1

Security

agers should clearly articulate business and customer risks, he said.

"If it is not well planned, if you are not thinking a few moves down the chess board, I don't want to hear it," Kinsella said.

The issue is gaining prominence as companies start replacing reactionary security models with more preemptive ones, said Scott Blake, chief information security officer at Boston-based Liberty Mutual Insurance Group.

Blake said that security officers must use language that is clearly understood by business executives when they explain the need for changes. And, he said, IT security officers must work to understand the requirements of the business side.

Tell It Like It Is

The key is for IT managers to "keep it real and get something that resonates with the executive body," said John Schramm, senior vice president of enterprise information security in the Cincinnati offices of Boston-based Fidelity Investments.

Schramm suggested that IT managers use external examples, such as a security breach or the emergence of a broad industry trend, to gain the attention of the executives who hold the corporate purse strings. "Use examples, use events in the media; pick the top [security] issue in the paper, which these senior executives read, and show them how it is being addressed," Schramm said.

On the other hand, Blake noted that stories about external events, although powerful, can be anecdotal. "Going to the board and CEO and saying, 'We are spending *x* percent, but we should spend *y* percent,' is very challenging" if the discussion is based only on what other organizations are doing, he said.

Showing business executives how a security investment can protect a company from legal and governance liabilities is also important, said Tom Bowers, manager of information security operations at a large drug company that he asked not be named.

As an outsourcer of IT operations, the company's ability to seek legal protection under intellectual property laws would be considerably weakened if it didn't implement what are seen as reasonable controls, such as encryption, content monitoring and digital rights management, Bowers said.

Highlighting such issues can help reinforce the business value of security investments, he added.

> **What we need from a CSO are facts, objectivity and some real clear recommendations [to demonstrate achievable returns on security investments].**
>
> **LAWRENCE KINSELLA,** CHIEF FINANCIAL OFFICER, BT GLOBAL FINANCIAL SERVICES

Douglas Callen, chief security officer at the Transportation Security Administration, a part of the U.S. Department of Homeland Security, noted that the need to convince business executives to take specific security measures is less of a concern for government agencies like his, where security is a fundamental requirement.

"I don't have to fight those same kind of internal battles," as many in the private sector must, he said. "I've just got to make a case because there is a vulnerability" or because of a government mandate, Callen said.

Edward Amoroso, CSO at AT&T Inc., suggested that "the most effective way to get more funding for security is to flunk an audit test."

However, he also noted that such a move is risky because audit failures can suggest incompetence on the part of the security organization. "That can be destructive to one's career," Amoroso said.

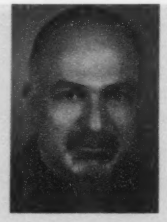
But having an auditor come in to identify security gaps can be a useful way of attracting the attention of top executives to issues that need to be addressed immediately, he added.

"On the one hand, [a failed audit] can suggest you don't know what you are doing," Amoroso said. "On the other hand, it can be a great force for change." ▸

Continued from page 1

Trustworthy

vice president of Microsoft's security technology unit, gave the security capabilities of today's Microsoft products a grade of B+. Five years ago, he said, that grade would have been a C- or a D.



> **Last year, we had over 300 products that went through [the Software Development Lifecycle process], and with three exceptions, they all passed. Vista is the first product that has gone through SDL from inception to end.**
>
> **BEN FATHI,** CORPORATE VICE PRESIDENT, MICROSOFT SECURITY TECHNOLOGY UNIT

The improvements are the result of a "cultural shift" at Microsoft sparked by the Trustworthy Computing memorandum that Chairman Bill Gates issued nearly five years ago, Fathi said.

Since then, the company has completely overhauled its product development processes, and it has trained developers to write secure code, Fathi explained. The initiative prompted the creation of the Software Development Lifecycle (SDL), a security-focused quality-control process that's now used for every software product developed at Microsoft.

"Last year, we had over 300 products that went through this, and with three exceptions, they all passed," Fathi said. The products that failed were blocked from release until the development team fixed the problems or found a way to mitigate them, he said.

"Vista is the first product that has gone through SDL from inception to end," Fathi noted. As a result, he said, "there is a whole lot of improvement to security in the product" compared with earlier products.

Users at the conference were skeptical of that claim, noting that it will take time for Microsoft to demonstrate that products such as Vista are indeed more secure.

Mark Olson, manager of information security at Beth Israel Deaconess Medical Center in Boston, said that so far at least, Microsoft appears to be on the right track with its Trustworthy Computing initiative.

However, he also noted that the health care organization has yet to deploy any products built using Microsoft's SDL process.

"Until [such a product] is deployed and we have a solid 18 months of runtime, I won't know for sure if they have gotten any better," Olson said, adding, "It's wise to be wary of sales pitches."

Still, he noted, Microsoft's patch release process and its efforts to develop tools such as its rootkit detector have been positive steps.

Holding Off

Marcin Czabanski, chief security officer at Medical Network One, a Rochester, Mich.-based provider of managed health care services, said he is taking a "wait and see" approach to determining whether the security of Microsoft products has truly improved, as the company claims.

"There have been a lot of improvements of their processes, and their products are more stable," Czabanski said.

Even so, Medical Network One plans to hold off on deploying Microsoft's upcoming Windows Vista operating system across the enterprise until there is reasonable evidence that it's secure.

> **Until [such a product] is deployed and we have a solid 18 months of runtime, I won't know for sure if they have gotten any better. It's wise to be wary of sales pitches.**
>
> **MARK OLSON,** MANAGER OF INFORMATION SECURITY, BETH ISRAEL DEACONESS MEDICAL CENTER

Czabanski also suggested that Microsoft needs to improve the reliability of its patches. He noted that there have been occasions in the past where Medical Network One has had to reinstall Microsoft patches that were initially faulty.

"They have been going in the right direction, but there's room for improvement," added Randy Bachman, information security principal at Lockheed Martin Information Technology in Newington, Va.

For instance, Bachman said, although Vista appears to be more secure than its predecessors and has integrated useful functions such as data encryption, Microsoft should also be working to add improved integrated spyware-detection and antivirus functions. ▸

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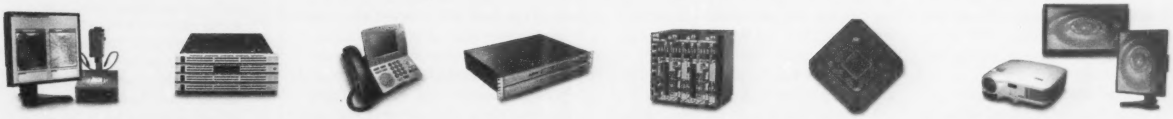

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GLOBAL DISPATCHES
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Members Rip EU Over Microsoft Penalty

BRUSSELS

FOUR EUROPEAN PARLIAMENT members last week warned the European Commission that its actions toward Microsoft Corp. could delay the release of the Vista operating system. Such a delay could hurt the competitiveness of European businesses, they said.

In a strongly worded letter submitted to EC Competition Commissioner Neelie Kroes, the legislators — U.K. representatives Chris Heaton-Harris, Sharon Bowles and Peter Skinner, plus Michal Kaminski of Poland — said that Microsoft called the regulatory actions a "risk factor" in an Aug. 25 filing with the U.S. Securities and Exchange Commission.

"This effectively means that the Commission's actions are endangering the ability of European business to compete globally," the legislators wrote.

In the SEC filing, Microsoft wrote that "these uncertainties could . . . delay release dates for Windows."

Microsoft and the commission have locked horns over how the company is complying with the March 2004 antitrust decision against the software vendor. The ruling requires Microsoft to provide documentation for certain protocols.

■ JEREMY KIRK, IDG NEWS SERVICE

Matsushita Recalls 6,000 Laptop Batteries

OSAKA, JAPAN

MATSUSHITA ELECTRIC Industrial Co. last week announced that it is recalling about 6,000 laptop PC battery packs because of potential overheating problems.

Osaka-based Matsushita, better known by its Panasonic brand name, is recalling the battery packs that were shipped with its CF-W4G Let's Note laptops in April and May of 2005. The recall applies only to machines that were shipped in Japan, according to the company.

A Matsushita spokesman said the problem can be triggered when a machine is dropped or placed roughly on a surface such as a desk or table. That can cause a spring in the latch to penetrate the battery pack, resulting in a short circuit that leads to overheating, he said. The company reported that two cases of overheating have been documented to date.

"This is very different from the Sony case," the Matsushita spokesman said, referring to the recent recalls by Dell Inc. and Apple Computer Inc. of almost 6 million batteries made by Sony Energy Devices Corp. because of risks that they could overheat and cause fires.

The cells in the batteries being recalled by Matsushita weren't made by Sony or produced internally, said the spokesman, who declined to identify the manufacturer.

■ MARTYN WILLIAMS, IDG NEWS SERVICE

GLOBAL FACT

98M

The number of Chinese people using instant messaging products, as of this year's first quarter.

CHINA COMPUTERWORLD RESEARCH, BEIJING

Singapore Tests Wi-Fi Before Global Meetings

SINGAPORE

THE INFOCOMM Development Authority of Singapore (IDA) has started testing a free wireless Internet service in advance of this month's annual joint meeting of the boards of governors of the International Monetary Fund and the World Bank.

The two-day meeting is scheduled to take place Sept. 19 and 20 in Singapore, and the island nation's government hopes to take advantage of the gathering to showcase Singapore's advanced technology infrastructure, including its use of third-generation mobile networks.

The Wi-Fi trial program covers a section of downtown Singapore around the conference and exhibition center where the IMF and World Bank meeting will be held. The test area also includes five nearby shopping malls, according to the IDA.

Users will be able to surf the Internet for free in those areas at speeds of up to 512Kbit/sec., the IDA said. The month-long trial of the Wi-Fi service, called Wireless@SG, comes ahead of plans to roll out a free nationwide Wi-Fi service starting in January.

■ SUMNER LEMON, IDG NEWS SERVICE

Microsoft, Satyam Open Development Centers

HYDERABAD, INDIA

MICROSOFT and Satyam Computer Services Ltd. last week jointly opened two software testing and development centers in Asia.

The centers, located in Shanghai and Singapore, will use real-life scenarios and data to test and localize various financial software packages. They will also develop applications specifically for the Chinese market, according to Microsoft and Satyam.

"The opportunity [in China] is staggering. The demand for more sophisticated financial products is expanding," said Ken Wye Saw, Microsoft's vice president of sales and marketing in the Asia-Pacific region.

The two companies wouldn't disclose the budgeted cost of starting up and running the new facilities. Saw said that under the terms of the agreement, Hyderabad-based Satyam will run day-to-day operations at the centers, while Microsoft will make its software engineers available when necessary.

■ DAN NYSTEDT, IDG NEWS SERVICE

Telstra Buys Control Of Chinese Web Site

MELBOURNE, AUSTRALIA

TELSTRA CORP. last week announced that it has acquired a controlling stake in SouFun Holdings Ltd., which runs one of China's largest real estate and home improvement Web sites, for $331 million Australian ($254 million U.S.).

Melbourne-based Telstra said it bought the 51% stake in SouFun to help beef up its online advertising business in China. The company added that the deal with SouFun is part of a broader plan to expand Telstra's business operations beyond Australia and apply its intellectual property and management expertise to new areas.

Telstra's Web advertising unit, called Censis, will help manage SouFun as part of the deal. But Vincent Mo, SouFun's founder and CEO, will remain in charge of that company and retain his 30.9% ownership share. The rest of SouFun's management team will also remain in place after the deal, the companies said.

They projected that SouFun will post revenue of $52 million Australian ($39.7 million U.S.) next year. ▸

■ DAN NYSTEDT, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

Huawei Technologies Co. late last month announced plans to open a research and development center in Bangalore, India, that will specialize in optical network products and wireless LAN technologies. Shenzhen, China-based Huawei said it expects to employ about 180 engineers at the new facility.

■ JOHN RIBEIRO, IDG NEWS SERVICE

Infosys Technologies Ltd. last week disclosed plans to expand its facility in the Czech Republic city of Brno as part of an effort to boost its ability to deliver business process outsourcing (BPO) services to European customers. Bangalore-based Infosys said it expects to increase the workforce in Brno from 130 people to 350 by January. The operation has BPO clients in 16 European countries, Infosys said.

■ JOHN RIBEIRO, IDG NEWS SERVICE

Tata Consultancy Services Ltd. has won a contract valued at $3.85 million Australian ($3 million U.S.) to install an academic application system for the Curriculum and Assessment Authority in the Australian state of Victoria. Mumbai, India-based Tata is building a system that is based on software from SAS Institute Inc. and will hold the academic history of each student in Victoria. The curriculum authority assesses student learning in the state and conducts research to develop educational programs.

■ COMPUTERWORLD AUSTRALIA

Sony Corp. has appointed Makoto Kogure, who had been president of its TV division, to the new position of quality control director. The move follows the recent recalls by Dell and Apple of laptop PC batteries that included lithium-ion cells made by the Sony Energy Devices unit.

■ MARTYN WILLIAMS, IDG NEWS SERVICE

IBM last week opened its sixth facility for delivering so-called high-performance on-demand solutions, or HiPODS. The labs focus on resolving large-scale computing issues for IBM's customers. The new facility in São Paulo, Brazil, will be linked to a central lab in San Jose and operations in Beijing, Bangalore, Hursley, England and Yamato, Japan. IBM wouldn't disclose its investment in the São Paulo facility.

■ CHINA MARTENS, IDG NEWS SERVICE

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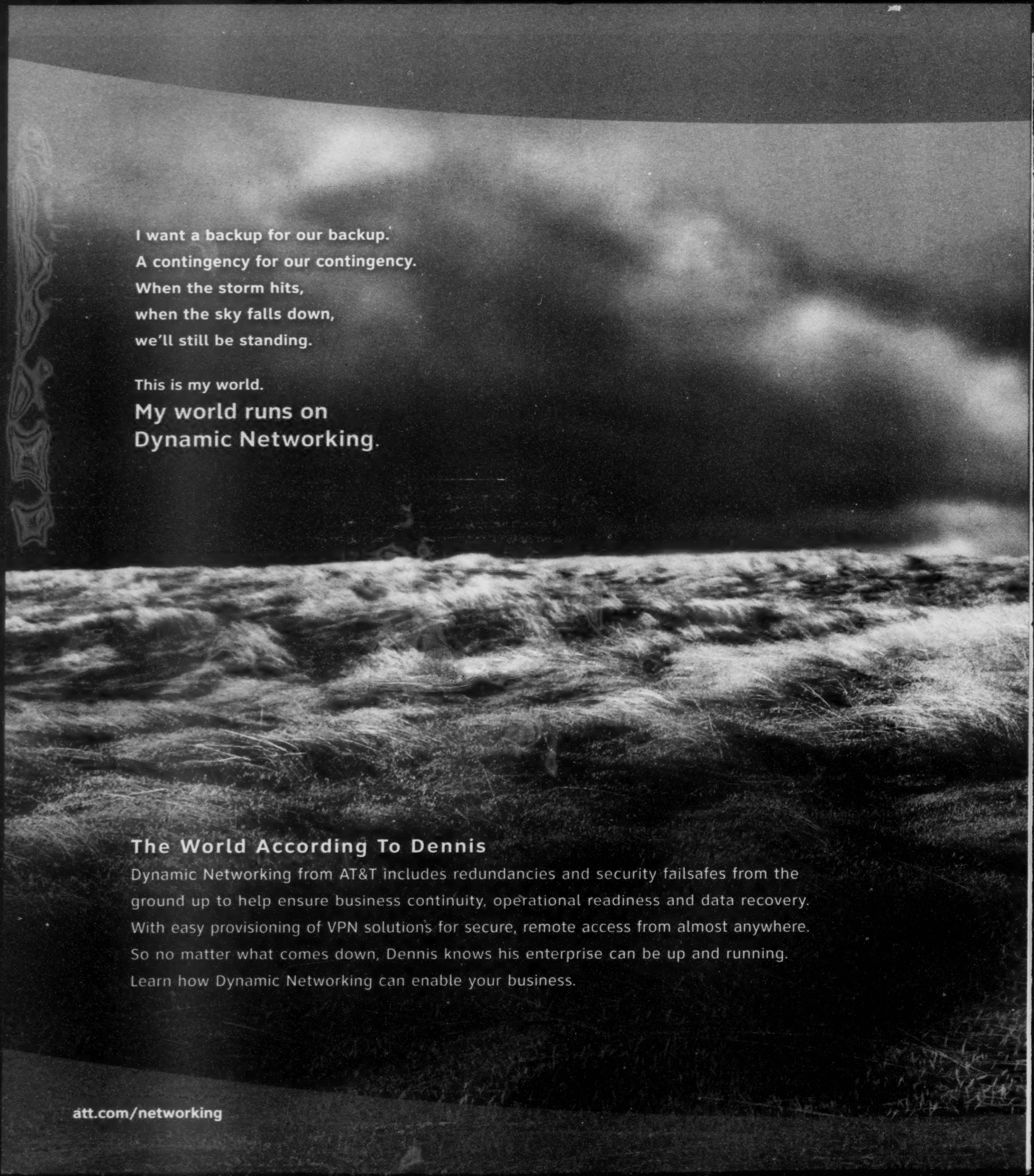

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Commerce Bank Gets Makeover at Branches

'Information-deprived' tellers to switch from 10-key calculators to desktop PCs

BY ERIC LAI

COMMERCE BANK last month finished rolling out a retail banking system for most of the tellers at its 340 branches that brought them into the PC Age for the first time.

Chuck Kim, executive vice president for retail administration at the bank's St. Louis-based parent firm, Commerce Bancshares Inc., noted that prior to installing the new system, "our tellers were still using 10-key Sharp [Electronics] calculators. It was cheap, and our tellers were pretty fast using them.

"But," he added, "we realized that with our tellers being a key touchpoint for our customers, we could no longer live with them being so information-deprived."

Moreover, Commerce in recent years has bought several small banks in its three-state footprint, which encompasses Illinois, Kansas and Missouri, Kim said. Some had more advanced teller systems while others had more primitive ones, and standardization was necessary, he said.

To tackle the problems, the bank last year hired Getronics NV, an Amsterdam-based IT services firm and software developer that counts 17 out of the world's 20 largest banks among its customers. Getronics finished rolling out Commerce's upgraded branch system a month ago, Kim said.

Ease of Integration

"It was a big leap forward," Kim said, noting that Commerce tellers are now armed with Dell PCs running the Microsoft .Net-based Globalfs retail banking software from Getronics. Connected to a server in each branch, the system provides tellers with quick access to information about customers.

In addition to enabling tellers to sell additional products and improving customer satisfaction, Kim said, the Getronics system integrates well with Commerce's existing online retail banking software, Voyager from Corillian Corp. in Hillsboro, Ore. Kim noted that the Corillian and Getronics applications share a common back end, a similar look and feel, and nearly all the same features.

The Globalfs software also allows Commerce to collect more information on teller performance, Kim noted.

"We had good information on what is going on at the call center or the Web. We didn't have it for our tellers," he said. "We also now get a lot more reporting on what is going on with our tellers. Now we know which types of transactions take a long time. We can also do more intelligent staffing. And we can cut the time for tellers to do their end-of-day balances by 50%."

Kim added that the company has used sophisticated technology outside of branch offices for some time, such as "a pretty sophisticated Web platform system that our more specialized bankers use."

Kim didn't disclose the cost of implementing the Getronics system but said the bank expects to recoup the investment in three to five years.

Michael Kerr, vice president of financial services at Getronics, said the company specializes in building front-end systems for banks, and it is finding a lot of opportunities among banks that had held off on modernizing branch technology in the hope that customers would turn to cheaper Web-based banking.

"Everybody says branches should go away, but they haven't," Kerr said. "The Internet is incredibly useful, but at the end of the day, people still go to ATMs to get cash or to branches to deposit checks."

Karen Massey, an analyst at Framingham, Mass.-based Financial Insights, noted that about three quarters of banking customers go to a branch at least once a month, despite the efforts of banks to steer them to less-expensive channels. ▸

Providence Unveils Wireless Network for Police, Fire Departments

BY MATT HAMBLEN

Providence, R.I., officials last week unveiled a $2.3 million wireless mesh network that is already being used by personnel in some police and fire vehicles to access city records.

Providence CIO Charlie Hewitt said that so far, three fire command vehicles and 24 police cars are linked to the mesh network, which includes 450 mesh wireless routers from Motorola Inc. that are attached to utility poles throughout the city.

As many as 100 to 200 public safety vehicles will eventually be connected to the network, which provides quick access to criminal records, mug shots, building blueprints and other city records, Hewitt said.

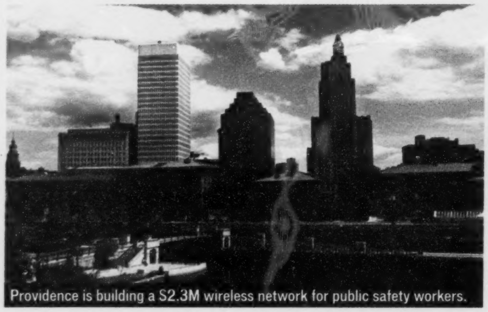
The city plans to expand the network for use by public works and other municipal employees, including building inspectors, over the next year, Hewitt said.

The project was funded using federal grants from the U.S. Department of Homeland Security, according to a statement from Mayor David Cicilline.

The city does not plan to allow public access to the network, Hewitt said. The network is separate from a wireless system being developed for businesses in the state by the Rhode Island Wireless Innovation Networks, a unit of the nonprofit state Business Innovation Factory economic development group, he noted.

The underlying network uses Motorola's Mesh Network Architecture technology rather than Wi-Fi and operates in the 2.4-GHz wireless band, Hewitt said.

Providence issued a request for proposals more than a year ago and selected Motorola's bid, which was the only one to meet the city's requirement that it be allowed to run the network.


Providence is building a S2.3M wireless network for public safety workers.

Providence chose the Motorola mesh technology for a variety of reasons, including its ability to provide dynamic routing should a wireless router become disabled, Hewitt said. For example, if a car knocks down a pole holding a wireless router, the system can use the next closest router to forward a data stream, he said.

The Providence effort will also include the installation of rugged 15-in. monitors in police and fire vehicles for viewing city records or for Web browsing if needed, Hewitt said.

Providence Fire Chief David Costa said he expects that firefighters will be able to use the system to download data about hazardous materials in a building, as well as floor plans and other structural details.

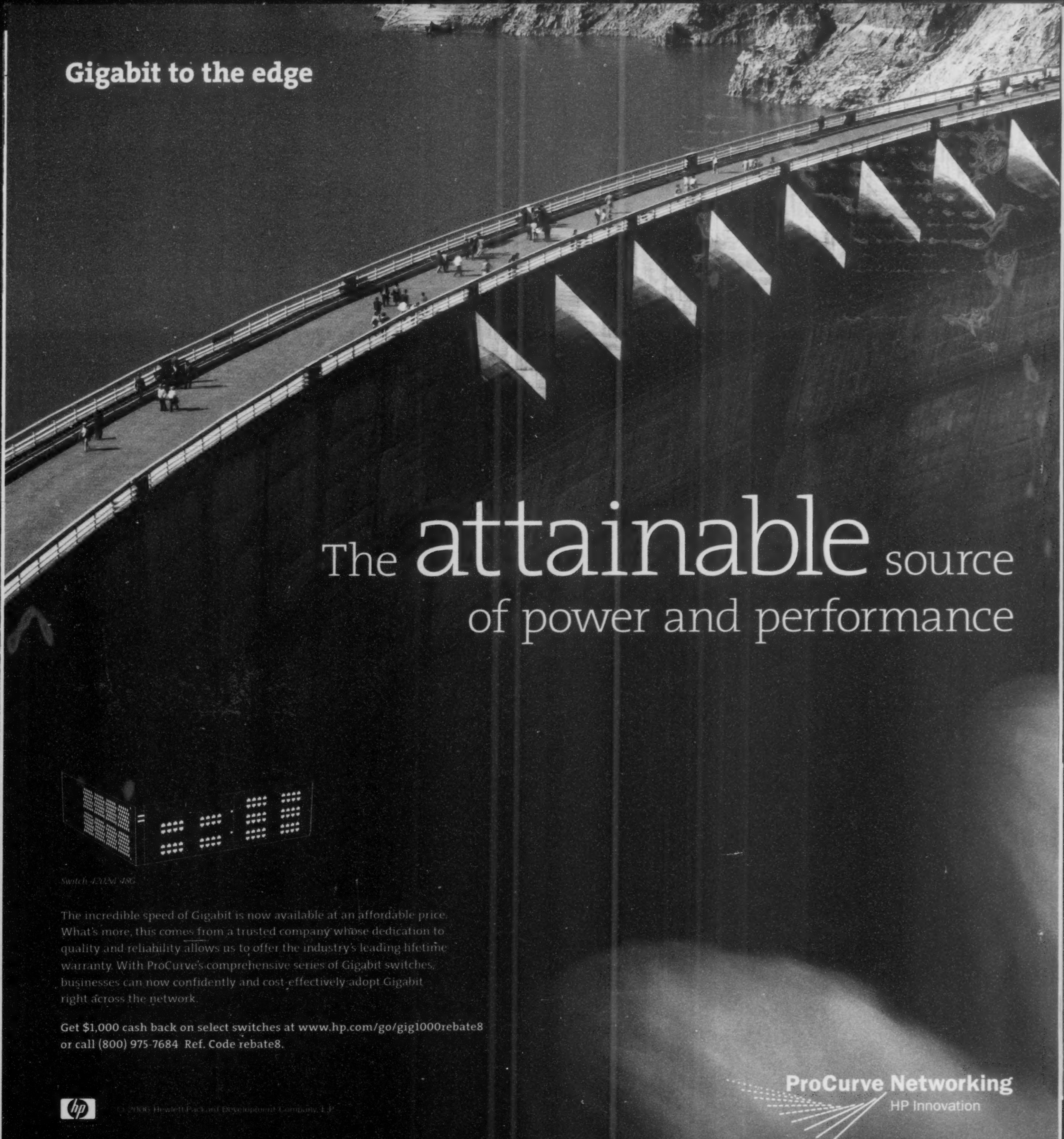
The new wireless system can also support video transmissions but has not yet been enabled to do that, Hewitt said. A separate wireless network is used for voice communications, partly to add redundancy in case of an emergency, according to Hewitt.

Operation of the network has been nearly flawless in tests, Hewitt said, noting that it was easier to design and implement the network than to attach the routers to utility poles.

For example, each of the shoebox-size routers had to be designed to ensure that they could withstand hurricane-force winds. The city attached the routers to poles after the original plan of using public buildings proved to be too complex and expensive.

Providence began a search for a new wireless network technology when the provider of its wireless network declared last year that the service, running over Cellular Digital Packet Data (CDPD), would be terminated. That network was terminated in February, and the city is using an EV-DO, or Evolution Data Optimized, network from Verizon Wireless as an interim replacement. Hewitt noted that throughput for the CDPD system was about 19.2Kbit/sec., compared with 300Kbit/sec. or more for the mesh network.

Hewitt did not identify the CDPD provider. ▸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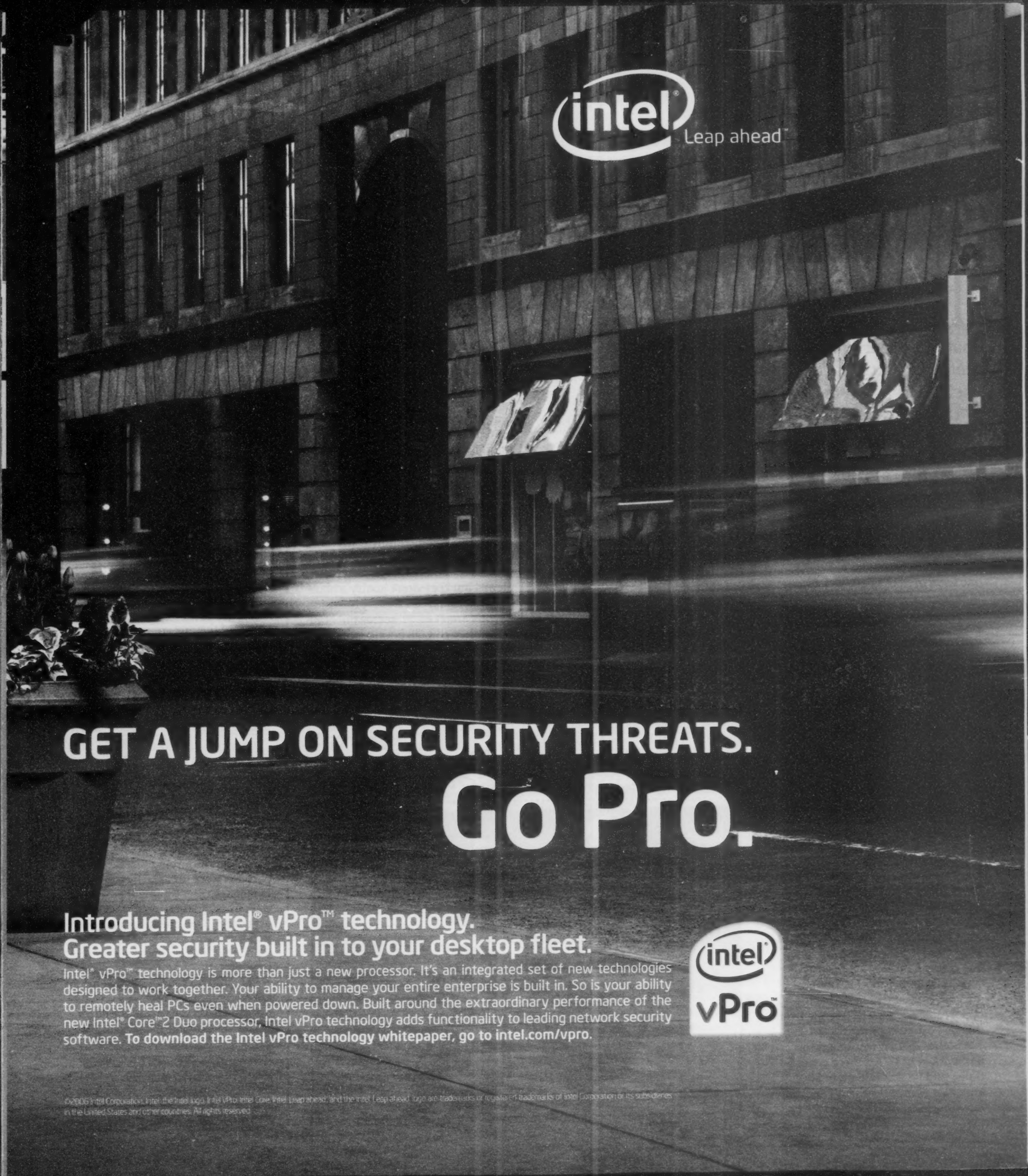

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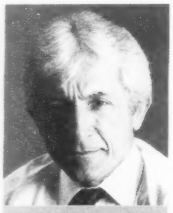

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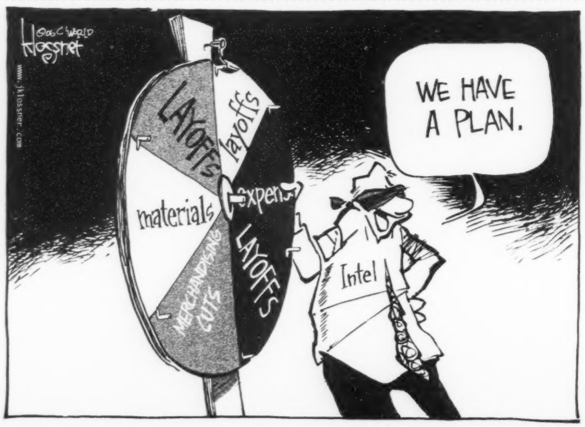

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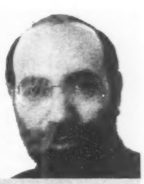

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* * *

Patently Absurd

MANY OF the comments in your Aug. 8 story "Inventors Object to New Patent Reform Bill" [*Computerworld.com*] reflect misunderstanding of the patent process. It's certainly true that large companies may be able to file more quickly, but they must be able to show that they invented the technology being patented if they expect a valid patent. If they steal someone else's invention and file a patent, their patent is not valid – prior art still matters. Moreover, an inventor who exploits an invention commercially without patenting it generally forfeits his right to a patent. Therefore, the small inventor must plan on patenting early if he wants to obtain patent protection.

A cleaner patent system would also help reduce the "patent troll" practice of filing patents and delaying their publication until someone else independently invents and commercializes the invention.

William Herdle
Briarcliff Manor, N.Y.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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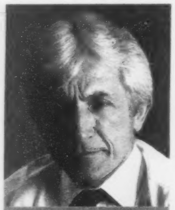

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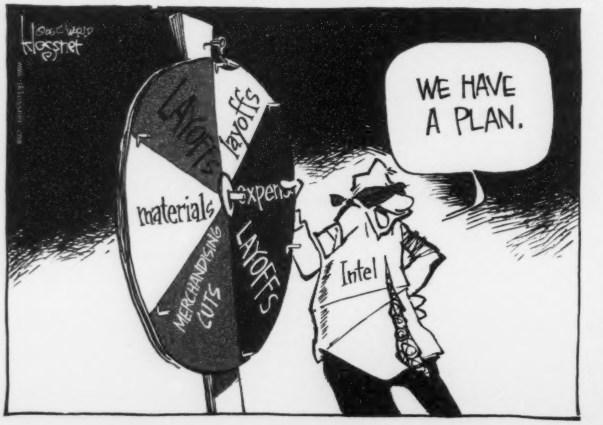

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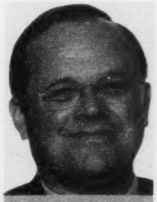

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Myrtle Beach, S.C.

Patently Absurd

MANY OF the comments in your Aug. 8 story "Inventors Object to New Patent Reform Bill" [*Computerworld.com*] reflect misunderstanding of the patent process. It's certainly true that large companies may be able to file more quickly, but they must be able to show that they invented the technology being patented if they expect a valid patent. If they steal someone else's invention and file a patent, their patent is not valid – prior art still matters. Moreover, an inventor who exploits an invention commercially without patenting it generally forfeits his right to a patent. Therefore, the small inventor must plan on patenting early if he wants to obtain patent protection.

A cleaner patent system would also help reduce the "patent troll" practice of filing patents and delaying their publication until someone else independently invents and commercializes the invention.

William Herdle
Briarcliff Manor, N.Y.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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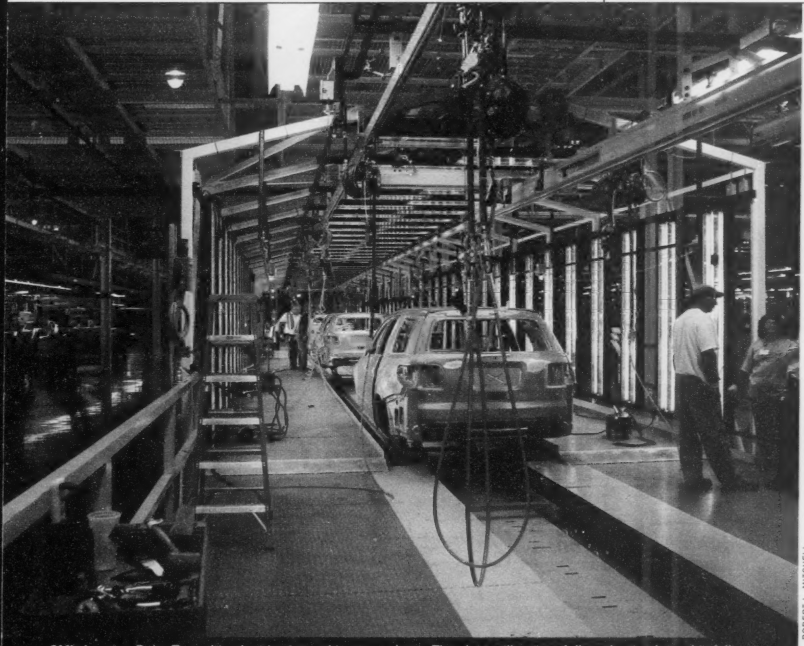
TECHNOLOGY

09.11.06

Mobile Defense Forces
The cost of a lost or stolen laptop can be enormous in terms of your company's reputation and its legal liability, but there are tools to keep the machines safe. **PAGE 32**

SECURITY MANAGER'S JOURNAL
New Wrinkle in PLM Security Controls
As a new PLM rollout is planned, a new requirement suddenly crops up. Data will be shared with outsiders, and Mathias Thurman wants it all done securely. **PAGE 36**

QUICKSTUDY
UMTS
This third-generation, packet-based broadband technology is designed for the transmission of text, digitized voice, video and multimedia data at rates up to 2Mbit/sec. **PAGE 38**



ROBERT L. MITCHELL

GM's Lansing Delta Township plant is pictured in setup phase. The plant will go into full production later this fall.

Virtual BUILDING BLOCKS

GM uses 3-D technology to design and construct new plants more quickly and cheaply. **By Robert L. Mitchell**

FIELD REPORT

BEFORE General Motors Corp. broke ground on its Lansing Delta Township automobile manufacturing plant on Jan. 30, 2004, the 2.4 million-square-foot facility had already been designed, built and equipped — in cyberspace. Before the first shovel of earth had been turned at the physical building site, the Detroit automaker created a virtual factory — a complete, 3-D version of the plant and its contents.

Architects, contractors, subcontractors and GM's facilities, manufacturing and production staffers collaborated upfront to design an integrated, multilayered 3-D model of the LDT campus, which included six buildings. They then worked together to iron out conflicts between the different building systems and the production process equipment within those buildings, assembled the finished structures, and scheduled the construction.

The new $1.5 billion facility, which opened in June, was completed faster and with a better safety record, higher quality and lower cost than previous projects, says Jack Hallman, director of capital projects for General Motors' Worldwide Facilities Group. 3-D "is going to revolutionize how we construct our buildings," he says.

But the technology is really an evolutionary step at GM, which already uses 3-D tools in the design, manufacturing and production of cars. "The architectural engineering side is merging with the process side," says Kirk Gutmann, global information officer for manufacturing and quality.

GM Lansing Delta Township Manufacturing Plant

Size: **2.4 million square feet**

Total plant cost: **$1.5 billion**

Estimated cost savings using 3-D technology: **5%-8%**

Estimated time savings: **Completed 25% ahead of schedule**

The building has become an extension of the production process, a wrapper into which existing 3-D models of the manufacturing operation can be inserted.

"These are techniques we've learned in the manufacturing end of the business, and we are applying them to the construction business," Hallman says.

"Our design and manufacturing is now integrated into the same digital pipeline," says CIO Ralph Szygenda.

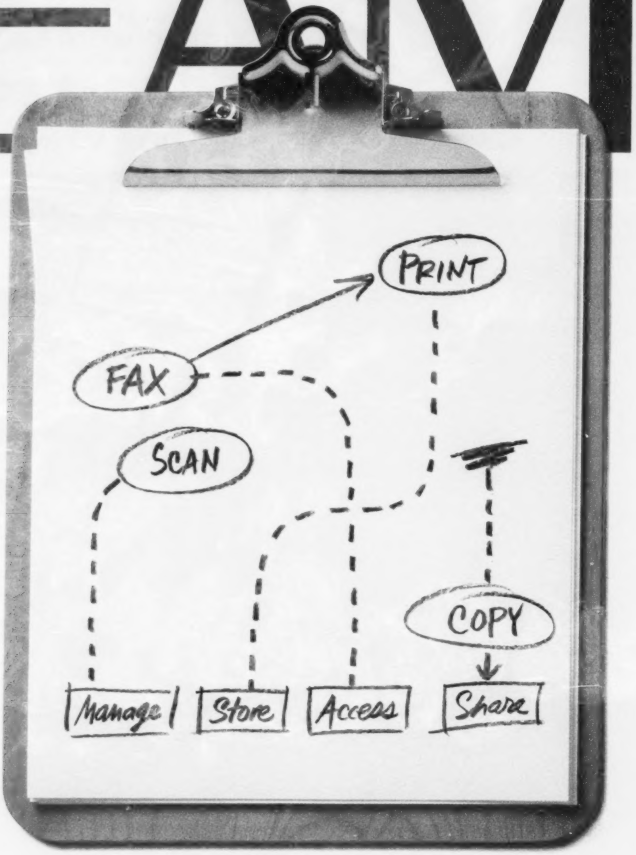
Promise of Savings

The results exceeded GM's expectations. The project came in 5% to 8% under budget and 25% ahead of schedule. That made it possible to get new vehicles produced at the plant and into the market faster, Hallman says. And the efficiencies of 3-D design could eventually change the way buildings are designed and built for any business, he adds.

That said, the architectural engineering firm, contractors and GM staffers all report that the initial learning curve pre-

Continued on page 30

TEAM P



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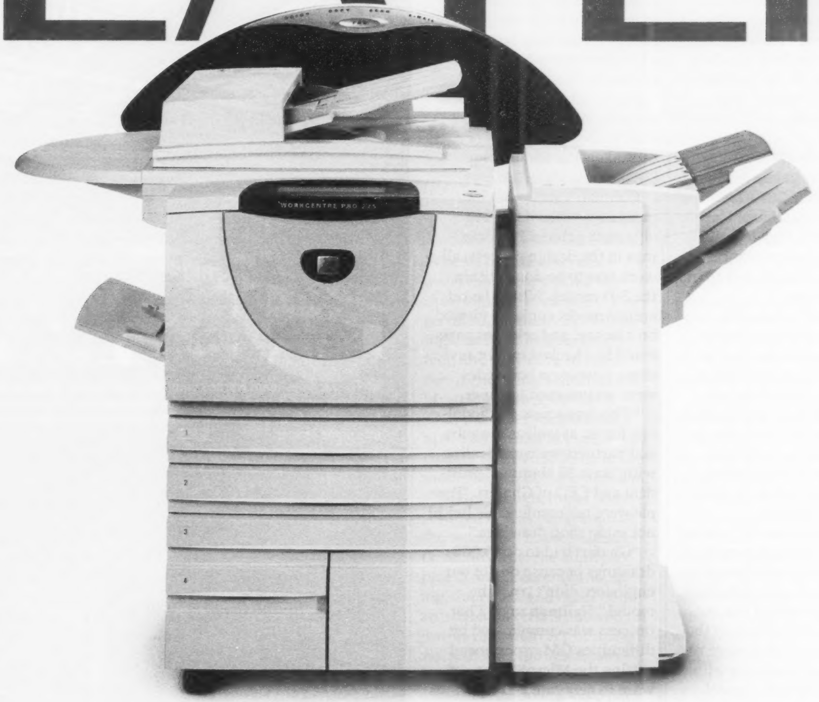

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MICHELLE ANDONIAN

> 3-D is absolutely the way to develop, design and build facilities. It's going to revolutionize how we construct our buildings.
>
> **JACK HALLMAN, DIRECTOR OF CAPITAL PROJECTS, GENERAL MOTORS WORLDWIDE FACILITIES GROUP**

Continued from page 27

sented some challenges.

The 3-D modeling tools used for building information modeling are as mathematically precise as the mechanical engineering tools GM uses to design and manufacture its products. Although 3-D tools have been around for some time, they have only recently evolved to become "production worthy," says Robert Mauck, vice president of advanced technology at Ghafari Associates LLC, the Dearborn, Mich.-based architectural engineering firm that led the LDT project. "In the last few years, you've really started to see this stuff work," he says.

The tools have gained acceptance for plant construction in some fields, including the petrochemical and aerospace industries, but have yet to catch on in a big way in the general building trade. The software creates precise engineering drawings of a building and its various elements at scale.

Building systems — electrical, structural, mechanical and so on — are integrated into the model in layers. Instead of looking at separate 2-D drawings and guessing how they fit together, the design team can integrate everything into a single 3-D image. At GM, those 3-D models were projected onto a wall screen in a virtual assessment room during weekly meetings. Participants then did "fly-bys," navigating through the virtual building to identify problems. The software also automatically identified "interferences," such as heating, ventilation and air conditioning (HVAC) piping sections that collided with steel truss work.

Uncertain Start

GM's facilities group first turned to 3-D in 2003, after management challenged it to come up with a way to build the company's next plant 25% faster and at a lower cost than it had in the past.

GM formed a team that included its facilities, manufacturing and production operations; Ghafari Associates; general contractor Alberici Constructors Inc.; and several other contractors and subcontrators. Ghafari created the baseline model using MicroStation design software from Bentley Systems Inc.

An integrated model created using JetStream software from NavisWorks Ltd. performed automated interference detection. Participants could check out, edit and check in layers of the model for which they were responsible and view them within the overall reference model.

While Ghafari created the basic building framework, contractors were responsible for updating and uploading into the model the components they were designing, fabricating and installing — from structural steel to electrical and HVAC systems.

For example, Alberici took the basic model for the steel structure and added the detail necessary for fabrication, right down to individual plates and bolts, and then fed it back into the NavisWorks model. The idea was to resolve conflicts in the model rather than in the field, where change orders can add 10% to 15% to a project's cost. Aberici could then download the final data to its cutting machines and use it to automatically fabricate the materials.

GM and the contractors were skeptical at first. The construction trade is slow to change, says Paul Lemley, senior vice president and general manager at Livonia, Mich.-based Alberici. "We use a lot of the same techniques that they used to build the pyramids," he says only half joking, adding that it took the industry nearly 20 years to totally accept computer-aided design systems. Alberici had used 3-D tools before, but "we were a little skeptical about using [3-D] at this scale," he says.

Hallman's group ran into resistance when it tried to eliminate printed 2-D drawings in the design process; all work was to be done within the 3-D model. While the reference model could be viewed on a laptop, and relevant parts could be checked out for revisions, people on both sides were accustomed to paper.

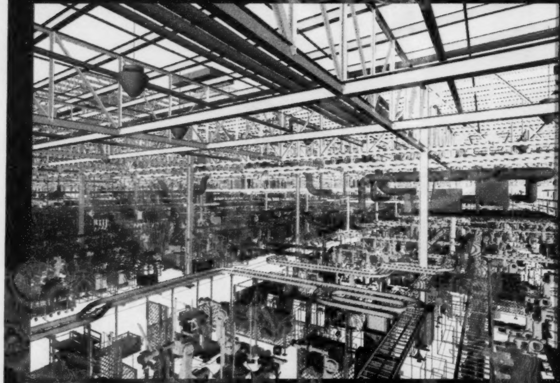
"This was a new methodology for us, as well as the subs and partners we were dealing with," says Ki Hammer, president and CEO of Ghafari. "People were not comfortable [with] not using shop drawings."

"Ghafari had to do 10,000 drawings because one of our engineers didn't trust the model," Hallman says. That process was complicated by difficulties GM experienced getting the MicroStation software to generate 2-D drawings from the 3-D model. "We had to debug the software. That's one of the reasons for the lack of confidence," Hallman says, adding that Bentley worked with GM to fix the problem.

The engineer eventually did get his 2-D drawings but soon found that by the time he could mark up paper, others had already addressed the same issues within the live model. As the staff got used to 3-D, 2-D drawings were eliminated.

File compatibility was another sticking point. Since industry standards for file formats are still evolving, GM initially required each party to use Bentley products to do its work. But Alberici had already created 3-D designs using a Tekla Corp. product called Tekla Structures that worked

Building in 3-D



■ The facilities team worked with GM's production group to move previously designed 3-D production equipment models into the virtual building to check for fit and obstructions. The model even inserted virtual workers into some spaces.

■ This overlay of the 3-D model (in purple) on a photograph of interior of the recently completed Flint Engine South plant, GM's second project to use 3-D technology, shows just how closely the final building matched the model specifications.

■ GM's 3-D design systems automatically identified interferences such as this piping collision throughout the 2.4 million-square-foot LDT facility.

PHOTOS COURTESY OF GENERAL MOTORS

with its steel fabrication equipment, says Lemley. Using Bentley's software amounted to extra work for contractors, some of whom had their own, preferred 3-D tools.

Meanwhile, GM's manufacturing engineering group used AutoDesk Inc.'s AutoCAD and FactoryCAD. GM has since changed its policy. "As long as your application is able to be read with NavisWorks and you're doing it in 3-D, we're good to go," Hallman says.

Over 12 months, the group identified and resolved more than 10,000 interferences. "That plant must have changed configurations 50 times before we finally got it nailed down," says Gutmann.

Some issues, such as a pipe running through a steel support, were obvious. Others were more subtle, such as structures that interfered with the production group's plant processes or equipment.

At one point, for example, a transfer point between conveyors was positioned over a building pressure joint. "You can't just put a precision piece of equipment on top of an expansion joint," because it expands and contracts, Hallman says.

Accurate Model

Once the design was complete, contractors were told to build to the model. Those that failed to route electrical conduit, plumbing or other systems as dictated in the model were required to redo their work at their own expense.

Feeding a Global 3-D Pipeline

THE APPLICATION of 3-D modeling to building design and construction isn't the only part of GM's digital pipeline that has recently moved to 3-D technology. While 3-D design tools have been used in product engineering for nearly a decade, GM moved from 2-D to 3-D for manufacturing engineering and production only in the past three years, says Kirk Gutmann, global information officer, manufacturing and quality.

Before that, the tools were available, but "they weren't how you did work. They kind of lagged the product development side," he says.

"In the last two or three years, you've really seen this stuff start to work," Gutmann says. Meanwhile, product life-cycle management tools have enabled global data integration and data sharing, allowing manufacturing processes to be integrated more smoothly. That was important, Gutmann says, because the plant generates eight to 10 times the amount of data of a product development design.

All of the data is stored in the same global system, and engineers at GM's manufacturing centers worldwide can collaborate on projects, says Bob Klem, director of global manufacturing and engineering.

Today, everything can be integrated into a single mathematical model – including the facility. Shared libraries allow the plant and the processes within it to be standardized and reused. "Most of the work in the old days was plant-specific. We're trying to globalize that," Klem says.

– ROBERT L. MITCHELL

"When we first started, we were all a little nervous about doing that," Hallman acknowledges, but GM stuck to its guns. The model turned out to be very accurate. "There were very few cases where anybody said, 'We both routed to the model, and it's just too tight a space to do it,' " he says.

With virtually all interferences eliminated, GM's costs dropped. Lemley conservatively estimates the savings from fixing collisions in the virtual model at one-tenth the cost of making such changes in the field. Each change can easily run $50,000 or more, and some would have cost $500,000, he says.

Because collisions in 2-D projects are unavoidable, tradespeople try to get their work done first, Lemley says. When a collision occurs, everything stops while the drawings are reviewed. "You go through hundreds of drawings, and you call the architect, and they have to come down and bring a mechanical [drawing] down," he says. That puts everyone else behind and results in expensive change orders. Building to the model eliminated the problem.

Better sequencing of work resulted in less congestion at the work site, improving safety. Meanwhile, the ability to precut and preconfigure piping, ductwork and other construction materials allowed for just-in-time delivery of materials, reducing the space needed for on-site storage.

"We could download a particular fitting directly into our fabrication equipment, cut it, fabricate it and get it into the field just in time to do the installation," says Dick Cramer, chairman of Holly Mich.-based Dee Cramer Inc., which handled the HVAC work. The practice also drastically reduced on-site waste, Hallman says.

The efficiencies created by building to the model also benefited the contractors, who could fabricate materials using cheaper, in-house labor rather than doing the work on-site.

"We experienced no rework," says Cramer. The project, which was slated to take 13 months to complete, was finished in nine and a half months.

Before the LDT pilot project was finished, GM was already using 3-D technology to construct a 442,000-square-foot addition at its Flint Engine South plant and has nearly completed several others since.

As GM has refined its processes, it has seen additional savings, Hallman says. For example, total savings for the Flint project were in the 10% to 15% range, nearly double the savings achieved in the LDT project, and the job was done 27% ahead of schedule.

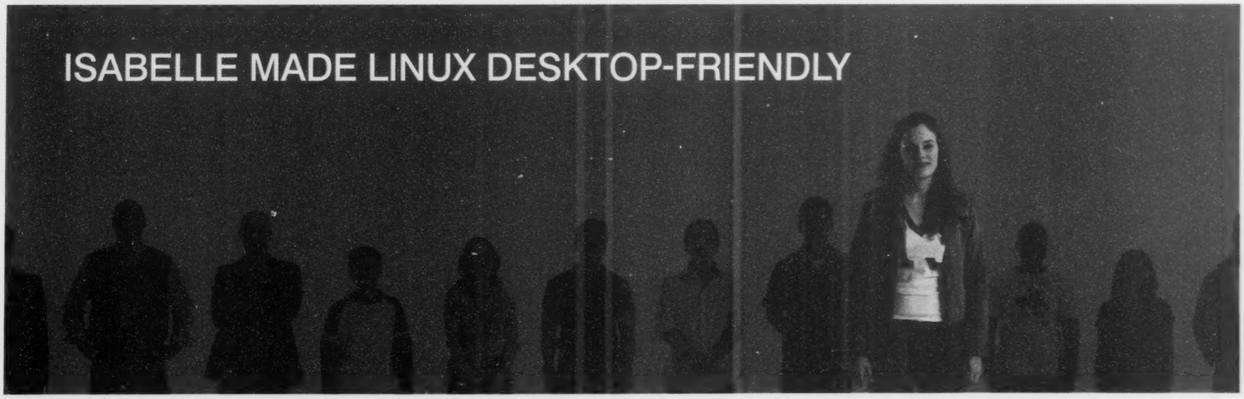
Now GM is working with Ghafari to move to a 4-D model, which includes time — in the form of a scheduling component — as the fourth dimension. Currently, scheduling is handled by an external tool.

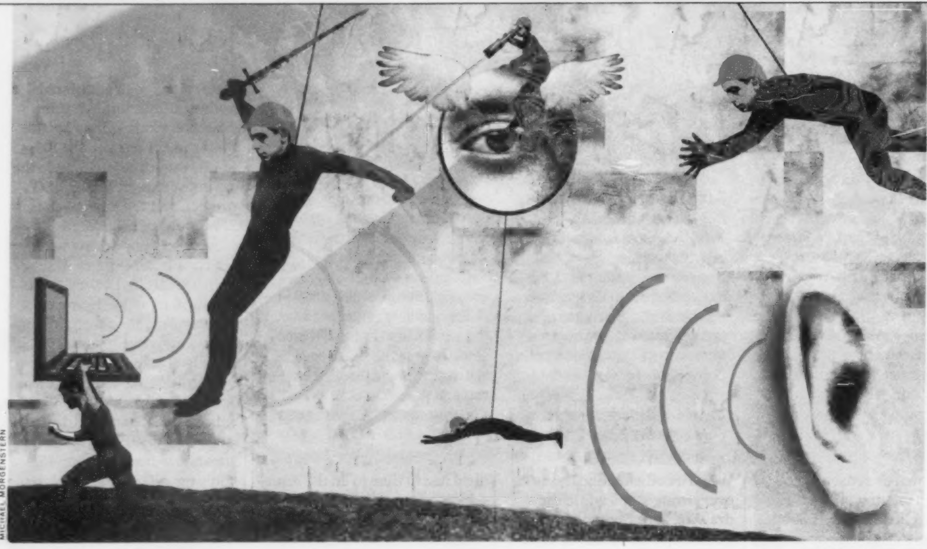
The 4-D approach should automate the process of optimizing the construction timeline and the scheduling of contractors and subcontractors. The tools for 4-D are still evolving, says Mauck, but he adds that "often, it is more about methodology than technology."

Eventually, Hallman would like to move to what he calls 5-D design, adding cost into the model. As materials were pulled from an object library, the cost implications of each decision would become immediately apparent.

That's more difficult, says Mauck. "Bill of materials can be extracted from the model for certain trades now," he says. "However, there are intangibles — market conditions, bidding environment . . . that affect cost estimating. No model can anticipate that."

For now, GM will squeeze as much efficiency as it can from the 3-D process. Says Mauck, "We're just scratching the surface of the value of 3-D." ◗





MICHAEL MORGENSTERN

Mobile DEFENSE Forces

BY LAMONT WOOD

Theft and loss of laptops is a growing problem as the workforce becomes increasingly mobile. Available technologies work along with best practices to secure hardware and the data on it.

PERHAPS YOU followed the dramatic headlines in May as the U.S. Department of Veterans Affairs came to grips with the fact that it had lost a laptop (that has since been recovered) with personal information on 26.5 million veterans and active-duty soldiers, potentially exposing them to identity theft.

Since then, you might have overlooked the missing New York state government laptop with 540,000 names. Or the Federal Trade Commission laptops with 110 names. Or the Ernst & Young Global Ltd. laptop with 243,000 names. Or the YMCA of Greater Providence, R.I., laptop with 68,000 names. Or the Equifax Inc. laptop with 2,900 names. Or the ING Groep NV laptop with 13,000 names. Or the Internal Revenue Service laptop with 291 names. Or the Ahold USA Inc. laptop with an undisclosed number of names.

And those were just some cases that surfaced in June.

Yet technology is available that would allow the words *laptop* and *security* to be spoken in the same breath without triggering gales of cynical laughter. Securing laptops generally depends on either Internet tracking, "kill switches" or encryption — or, more commonly, a combination of the three.

Absolute Software Corp. offers a service called Computrace, through which subscribers' laptops connect with an Internet server once a day. If a machine is reported stolen, it will be told to start checking in every 15 minutes the next time it connects to the server, explains Les Jickling, marketing manager at the Vancouver, British Columbia-based vendor. Using various databases, its IP address will be matched to a street address. The next knock on that door may be the police arriving to recover the machine.

Thomas Schuetz, president of MDx Medical Management Inc., a consulting firm in Windsor, N.Y., signed up for the Computrace service in November 2005 to keep track of 20 laptops. Two months later, his own laptop went missing.

"I sent the Computrace people a copy of the police report, but the machine did not start polling the Internet until the end of March, from a location in Florida," Schuetz says. "The recovery team contacted me in early April. They had tracked it to Yonkers and then to downtown Manhattan, where it settled into one IP address, a person's home. They were able to watch what was being done with the laptop and asked me if I knew that person. They offered to erase the hard disk remotely, but I would have had to reconstruct certain things, so I said no."

After the laptop was seized, Schuetz went to the precinct headquarters to pick it up, and everything was intact, he says. The person from whom the laptop was recovered now faces charges of possessing stolen property.

"The service would be worth twice what it costs us, and we recommend to our doctor clients that they get this service," he says.

By special arrangement, links to Computrace are contained in the BIOS chips of Hewlett-Packard, Gateway, Lenovo Group, Dell and Fujitsu laptops so that even reinstalling the operating system will not stop the machines from reporting in, Jickling says. Pricing for the full Computrace service starts at $128.95 per unit for three years. A consumer version, called LoJack for Laptops, is priced at $49.99 for one year.

Meanwhile, CyberAngel Security Solutions Inc. in Nashville offers a combination of encryption and tracking. The CyberAngel system creates an encrypted partition on the hard drive,

The 2005 Computer Science Institute/ FBI Computer Crime & Security Survey found that the theft of a laptop typically costs a company an average of $89,000.

and anyone who boots the system but gives the wrong password will be able to use the machine but will not see the encrypted partition, says CyberAngel spokesman Bradley Lide. While an unsuspecting thief uses the machine, the laptop will start sending out tracking pings in the background.

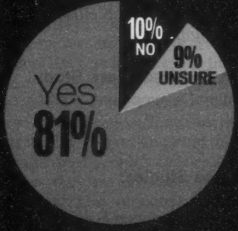
"We got the CyberAngel service when we first started getting laptops two years ago and have needed it twice," says Jodea Johnson, a systems administrator at Douglas County Hospital in Alexandria, Minn.

Johnson says she chose the service because she liked the encryption it offered and the likelihood that a thief would not be aware of it. Also, the price seemed right — $62.60 per three-year license for organizations buying coverage for 100 to 500 devices.

It took about six weeks before the first missing laptop started transmitting and the police could recover it, while the second one took less than a week, Johnson says.

COMMON LOSSES

Has your organization experienced the theft or loss of a laptop computer containing private or sensitive information in the past 12 months?



Base: 484 IT professionals in business and government organizations

SOURCE: PONEMON INSTITUTE LCC, AUGUST 2006

Laptop Hijinks

Kill switches, along with encryption, are the weapons of choice of Beachhead Solutions Inc. in Santa Clara, Calif. When a machine using Beachhead's Lost Data Destruction service connects with the server after it has been reported stolen, the service begins erasing preselected files, overwriting them multiple times to preclude file recovery, says Jeff Rubin, Beachhead's vice president of marketing. Lost Data Destruction can also trigger other stunts to make the stolen machine unusable, such as eternally rebooting it.

Machines with the service periodically go through a checklist, noting things such as whether they have been booted up using legitimate access controls. If they haven't, they can launch procedures in order to thwart illicit use, Rubin says.

Single-user pricing is $129 a year.

"Tracking is a great idea if you are concerned about the hardware, but a $1,500 laptop is no big deal compared to the damaged reputation that could result from a breach," says Corey Jenrich, IT manager at Community Bank in Pasadena, Calif. He uses Beachhead's product for his bank's 80 machines. He has never had one stolen and so has never used the kill switch. In the meantime, Jenrich uses the automated encryption facilities that the Beachhead software also offers.

"We could have just rolled out the Encrypting File System on Windows XP, but we thought it put too much reliance on the end user to put the right files in an encrypted folder, and if the laptop gets into the wild, I can't prove that a given file was encrypted," he says. With Beachhead, all files with user-specified extensions will be encrypted. Jenrich also says he likes the way the software can delete files and close down the computer even if it never connects online again.

"We're covered," he says. "It would be worth it if it cost four times as much. We like it for the control it gives us over the end-user environment, extending to situations when the machine is not in our physical control."

And being covered is the main reason more companies are adopting some form of encryption as well as tracking, says Eric Maiwald, an analyst at Burton Group in Midvale, Utah. More laws, such as California's SB 1386, are requiring notification of victims if a company suffers a breach of unencrypted personal data.

"They want that encryption 'get out of jail free' card," Maiwald says. "Encryption products have been around since the 1980s but have not seen much adoption outside the government and financial institutions. But now, with the notification laws, we are seeing much larger deployments." He adds that there are dozens of products that fall into either the file encryption or whole-disk encryption categories.

But Maiwald advises against depending on the encryption tools built directly into some applications, such as Microsoft Word. "There are a lot of programs out there that will break them," he warns. ◗

Wood is a freelance writer in San Antonio.

For more tales of stolen-laptop woe, go to www.itcinstitute.com and run a search for "laptop."

TOOLS + COMMON SENSE

Following these tips, in addition to using security technologies, can keep your laptop more secure when you're on the road.

1. Avoid using computer bags. They make it obvious that you're carrying a laptop.

2. Never leave access numbers or passwords in your carrying case.

3. Keep your eye on your laptop, especially when you go through airport security.

4. Avoid setting your laptop on the floor. This is an easy way to forget it or lose track of it. If you have to set it down, try to place it between your feet or against your leg so you're always aware it's there.

5. Use a screen guard. These guards help prevent people from peeking over your shoulder as you work on sensitive information in a public place. This is especially helpful when you're traveling or need to work in a crowded area. Secure-It Inc. is just one of the companies that offers screen guards.

6. Try not to leave your laptop in your hotel room or with the front desk. If you must leave your laptop in your room, put it in the safe or a drawer and put the "do not disturb" sign on the door.

–LAMONT WOOD

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8:00am to 8:30am	**Registration and Networking Breakfast**
8:30am to 8:40am	**Introduction and Overview** Julia King, Executive Editor, Events and National Correspondent, Computerworld
8:40am to 9:20am	**Market Overview and Trends** Michael Hugos, Computerworld Columnist, Former CIO and Author of *Essentials of Supply Chain Management* and *Building the Real Time Enterprise: An Executive Briefing*
9:20am to 10:00am	**Application Performance at NYISO: An End User Case Study** Linda Zafonte, Director of Business Solution Development, NYISO
10:00am to 10:15am	**Refreshment and Networking Break**
10:15am to 10:50am	**Application Performance Assurance Case Studies: It Pays to Be Predictable** Elizabeth Maly, Vice President, Application Performance Solutions, Compuware
10:50am to 11:25am	**Application Performance at the University of Rochester: An End User Case Study** John Barden, Director of Administrative Computing, University of Rochester
11:25am to Noon	**Panel Discussion** Moderator: Julia King, Executive Editor, Events and National Correspondent, Computerworld Panelists: John Barden, Director of Administrative Computing, University of Rochester; Linda Zafonte, Director of Business Solution Development, NYISO; Michael Hugos, Computerworld Columnist, Former CIO and Author of *Essentials of Supply Chain Management* and *Building the Real Time Enterprise: An Executive Briefing*

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[BULLETINS FROM THE BLOGS]

A sampling of the Computerworld.com blogs turns up opinions on security, schools, technology addiction and more. The goal is to present an array of lively, thoughtful writing that's provocative enough to evoke a response from readers. Follow the URLs to read more.

MICHAEL R. FARNUM

Linux on the Desktop – Will It Happen at Last?

There have been prophecies for years that Linux is going to be the widely used alternative to Windows on the desktop. The problem is that it has always been so complicated to get working. From the first install to the installation of drivers and programs, Linux has always been the domain of the ultrageek who loves to figure out how things work and loves knowing things that make most people's eyes cross. But times, they are a changin'. With Red Hat and other versions of Linux, putting Linux on a desktop for mainstream use has become much easier.

www.computerworld.com/blogs/node/3324

ALEX SCOBLE

Check Your SNMP Security

Here's a good axiom to follow: By default, no device or system on your network is secure. What do I mean by this? I mean, when you first plug in and turn on a device — just about any networked device — you must do work to secure it, since the default settings are almost always not secure. This goes for printers, switches, firewalls, laptops, desktops, servers and networked storage devices.

www.computerworld.com/blogs/node/3338

JEFF BOLES

So Much for Straightforward Backup Engineering

I've always had the point of view that backup is a necessary evil. Backing up your data isn't something fun to do, but you back up for all the reasons you have to (you like your job, you might need something back, or somebody else might need something back). But the marketplace has changed a lot to give you real options.

It used to be the case that you hammered away at your backup in the same painful way, regardless of the tool set being used. We were all loyalists to one product or another — but give me a break. Was there really any substantial difference between an ArcServe and a NetBackup?

www.computerworld.com/blogs/node/3344

JERRI LEDFORD

BI: The Lesson Some Schools Are Learning

Some schools are now using analytics and business intelligence to track students' performance. It's such a great idea. One of the problems with many schools is the time between when a standardized test is given and when the results come back. In the case of my daughter's school, the results of the test she took last fall were delivered on the first day of school this year. It was a real eye-opener. But what would have been far more helpful would be if the results were available within a few days or a week of the test being taken. Then I would have known what to work on with my daughter over the summer.

www.computerworld.com/blogs/node/3339

MARTIN McKEAY

Some Security Steps You Should Already Be Taking

I couldn't help but laugh a little when I read some of the advice from Symantec and Microsoft about dealing with a possible vulnerability in Internet Explorer. Little gems like "Run all software as a nonprivileged user with minimal access rights" or "Do not follow links provided by unknown or untrusted sources." These suggestions have nothing to do with this particular vulnerability but have everything to do with running your system in a defensible mode to begin with. You're not running in an administrator account right now, are you? I hope not, since you're surfing the Net.

www.computerworld.com/blogs/node/3346

DOUGLAS SCHWEITZER

Addicted to Technology?

Technology is great, and small, portable wireless devices are all the rage. Organizations are taking advantage of the ability to keep remote workers "reachable" at all times. Unfortunately, there may be a price to pay. Workers are becoming addicted to these devices and, as a result, could end up suing their employers for their information addiction. Too much of anything is simply no good. Humans seem vulnerable to this type of behavior, and this was evidenced even before the advent of the PC. Back in the '70s, millions were addicted to CB radio.

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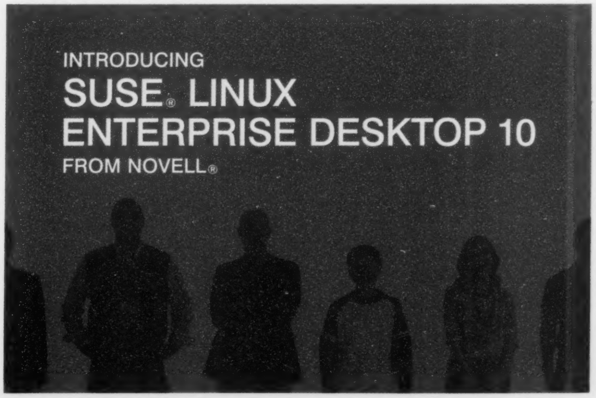
CAREER FORUM

Layoffs Lead to Uneasy Questions

If you've been laid off, paying the bills may be an initial and continuing challenge, but maintaining enough confidence and self-esteem to land the next position can be even more difficult. If you find another position, will it be as good as the last? Can you maintain your standard of living? Are you anxious about the ax falling again? Is your new position at the same professional level? Is it in the same profession at all?

www.computerworld.com/blogs/careers



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New Wrinkle in PLM Security Controls

Unexpectedly, data must be accessible by some partners, and our manager wants it all done securely. By Mathias Thurman

OUR PRODUCT lifecycle management (PLM) implementation has a number of security considerations, and I've been providing input on the security best practices that I think should be included when this application is rolled out.

The PLM application will become the repository for a lot of sensitive data, such as source code and design specifications, that's housed in various legacy applications. Those applications predate my arrival at the company, and they are lacking in several areas related to security. I want to be sure we start out on the right foot with this new application as part of my efforts to better protect the company's intellectual property.

SECURITY MANAGER'S JOURNAL

It hasn't always been easy, though, and I don't imagine that I am very well liked among the members of the PLM team. Just this week, a new requirement for the PLM application came to my attention that was a bit alarming. But let me review the history of this project before I get to the latest wrinkle.

About four months ago, I met with the PLM team. Our first decision was to assign the data that will reside in the PLM application one of two classifications that are consistent with the company's data classification model: Confidential, and Confidential Special Handling.

As things went along, I was expected to provide my security requirements. I was very specific while trying to be reasonable. I didn't ask for things that went beyond the scope of the project, were too expensive to implement or, like identity management, didn't fit in with the company's current security model.

I required that each user have a unique ID on the system — no more sharing of credentials, as has always been the case with our legacy applications. I want everything that happens in the PLM application and to the data stored in it to be audited: checkout, check-in, log-on, log-off and the granting of administrative privileges. We have to be able to document these things so we can properly investigate any theft of intellectual property. Our current systems don't provide this essential information, so our investigations have been stymied.

I also demanded that we apply the rule of least privilege so that users will have authorization to do only the things they need to do to accomplish their jobs. Our legacy applications lack this, and since data isn't segmented by authorization level, anyone with an account can gain access to data that's classified as Confidential Special Handling.

How do we get these very large documents to the external entities?

I also wanted to deploy Secure Sockets Layer between the clients and the Web server, but the business decided not to implement SSL. So I followed my standard practice in cases like this: I crafted an e-mail laying out the risks inherent in rejecting the SSL deployment, and then I had the program manager sign off on this risk accountability and acceptance document. Once he did, I forwarded it to the CIO. Now, should a breach occur that would have been prevented had we deployed SSL, I have documentation showing that I identified the threat but was overruled on the mitigation.

Outside Interests

That's where things stood until this week, when I met with the IT project coordinator for the PLM application. He had a new and rather alarming requirement: People outside the company, mainly suppliers, should be granted access to certain documents that are classified as Confidential Special Handling.

There's a legitimate business need to do this, but it means that we have to go back to our legal department and run an additional classification by them. Certainly, the application controls will have to remain the same, especially in regard to logging the check-in and checkout of documents.

But this new requirement raises another issue entirely: How do we get these very large documents to the external entities? For this, I will be looking at implementing an enterprise FTP server. We currently have an old Linux server sitting in our DMZ that runs an FTP daemon. Employees use it to let customers transfer files from our company — but only files that don't contain sensitive information. The main reason we provide for such FTP transfers is because some companies we do business with limit the size of e-mail attachments that can be received. FTP keeps the very large files that need to be sent from being blocked by restrictive e-mail server settings. (An alternative is to burn the file onto a CD or some other external media and ship it, but sometimes that takes too much time.)

But this public FTP server has no encryption, no robust access control and no method for properly segmenting data, so I'll be calling some vendors within the next couple of weeks to find a Web-based FTP environment that will allow users, through their Web browsers, to log onto an environment within our DMZ and provide credentials that will identify them by their relationship to our company and then compartmentalize them based on that identity.

The last thing we want is to commingle data or reveal the identities of suppliers, partners and customers to one another. The uploading and downloading of files will be done through a Web browser, bypassing the need for a special FTP client or for the user to issue FTP commands. I'll also be looking at ensuring that this infrastructure encrypts the data in transit and at rest on our server.

In the future, I'll mandate the use of digital rights management to further protect sensitive intellectual property. In fact, that mandate may be issued sooner rather than later, since we're rekindling a DRM project that was cut last year because of a lack of funds. ◗

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussions in our security blogs: **computerworld.com/blogs/security**

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

SECURITY LOG

Florida Bank Pays $50M in Data Suit

Fidelity Federal Bank & Trust in West Palm Beach, Fla., agreed to pay $50 million to settle a class-action suit it faced for buying 656,000 names and addresses from the Florida Department of Highway Safety and Motor Vehicles. The bank bought the data to use in a direct marketing campaign, a violation of the federal Drivers Privacy Protection Act of 1994. That legislation aims to keep drivers' data from stalkers and other criminals.

Indian Call Center Worker Arrested

Sulagna Ray, 23, an employee of an Indian call center, was arrested for allegedly using credit card information she obtained at work to buy $4,000 worth of goods for herself over the Internet. Ray worked for Jaishree Infotech selling Dish Network TV to people in the U.S.

Google to Turn Over Data in Brazil

Google Inc. said it will comply with a Brazilian court order to turn over user search data to help authorities identify people involved with "online communities that encourage racism, pedophilia and homophobia," *The Washington Post* reported. Google is taking some heat for its decision, since it refused a U.S. Department of Justice demand for user search data to aid its efforts in fighting child pornography. Google says there are differences, though. The DOJ sought Google's whole search index for "a broad civil case," whereas Brazil has asked for specific information from Google's social networking site, Orkut. In Brazil, Google faced a fine of $23,000 per day for noncompliance with the order.

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UMTS

DEFINITION

Universal Mobile Telecommunications System is a third-generation, packet-based broadband technology designed as a successor to GSM cellular telephony. Popular in Europe and currently operating in more than 25 countries, UMTS is designed for the transmission of text, digitized voice, video and multimedia data at rates up to 2Mbit/sec.

BY RUSSELL KAY

QUICK STUDY

FOR EFFECTIVE, efficient communications, standardization is critical, and nowhere is this more evident than in the areas of mobile computing and cellular telephony.

If you need data access or e-mail through your cell phone, you're likely to be using one of two different technologies. In the U.S., the main approach for voice communications is called Code Division Multiple Access (CDMA), and it is the basis for the major network services offered by Verizon Wireless and Sprint Nextel Corp., among others.

In Europe and most of the rest of the world, however, a very different technology called Global System for Mobile Communications has dominated the market. GSM uses a Time Division Multiple Access approach to frame structure. GSM service is available in the U.S. primarily through T-Mobile USA Inc. and Cingular Wireless LLC. These carriers maintain GSM networks that are distinct from (though connected to) their other digital networks.

Both CDMA and GSM are second-generation (2G) technologies, and they have coexisted for several years. Each technology has its supporters. CDMA phones are engineered specifically for an individual carrier, whereas GSM phones make use of a removable memory card called the Subscriber Identity Module (SIM). Physically smaller than a secure digital flash memory card, a SIM card contains all the key information required to activate a phone, including the user's telephone number, personal identification number, address book and encoded network identification details. A user can easily move a SIM from one phone to another.

Though GSM phones are interoperable with one another, different countries use different parts of the frequency spectrum, so "world phones" typically must be capable of using several frequencies.

Today, the fastest-growing use of cellular networks is for the transmission of all kinds of data and rich media, including Web sites, video, music, images, and maps and driving directions. The older 2G networks simply couldn't handle that volume of traffic, and they couldn't offer the speed needed for transmitting large files. The answer was to make the services faster and build out the networks to deal with more traffic.

Here, too, the CDMA and GSM paths continued their separate but parallel development. CDMA brought us CDMA2000 and 1xRTT networks. The most recent developments are 1x Evolution Data Optimized, or EV-DO, and 1x Evolution Data/Voice, or EV-DV.

Similarly, GSM begat General Packet Radio Service, or GPRS, which begat enhanced data rates for GSM evolution, or EDGE. EDGE was developed to enable the transmission of large amounts of data at a high speed, 384Kbit/sec. The latest generation is called Wideband Code Division Multiple Access (WCDMA).

And this finally brings us to Universal Mobile Telecommunications System.

The International Telecommunication Union (ITU), a specialized agency of the United Nations, has attempted to coordinate these competing technologies to improve throughput and increase interoperability. The International Mobile Telecommunications 2000 standard is a third-generation digital communications specification from the ITU. And the European (i.e., GSM-based) implementation of IMT-2000 is UMTS, which is based on WCDMA. Previous cellular telephone data systems were mostly circuit-switched, requiring a dedicated connection. WCDMA is packet-switched, using the Internet Protocol. The first commercial WCDMA network was launched in Japan in 2001.

Technical Details

UMTS has been specified as an integrated application for mobile voice and data systems with wide-area coverage. Using globally harmonized spectrum in paired and unpaired bands, early implementations of UMTS offer theoretical bit rates of up to 384Kbit/sec. in situations where the mobile device is actually moving. The current goal is to achieve 2Mbit/sec. when both ends of the connection are (at least temporarily) stationary.

UMTS operates on radio frequencies identified by the ITU IMT-2000 specification document and licensed to operators, using a 5-MHz-wide channel that simplifies deployment for network providers that have been granted large, contiguous blocks of spectrum. Most UMTS systems use frequencies between 1,885 and 2,025 MHz.

UMTS assigns separate carrier frequencies to incoming and outbound signals, a process called frequency division duplexing (FDD). For symmetric traffic, such as two-way videophones, FDD is highly efficient, allowing uplink and download data rates to be equal, in contrast to technologies such as Asymmetric Digital Subscriber Line service, which typically offers upload rates that are much slower than its download rates. FDD reduces interference and wastes no bandwidth in switching from transmitting to receiving.

Ongoing work within the 3rd Generation Partnership Project promises increased throughput speeds over the WCDMA Radio Access Network. High-Speed Downlink Packet Access and High-Speed Uplink Packet Access technologies are already standardized, and commercial operators in Asia and North America are putting them through network trials. With theoretical download speeds as high as 14.4Mbit/sec. and uplink speeds of up to 5.8Mbit/sec., these technologies will make it possible for UMTS to offer data transmission speeds comparable to those of hard-wired Ethernet-based networks. ▸

Kay is a Computerworld *contributing writer in Worcester, Mass. You can contact him at russkay@charter.net.*

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March of the Generations

STARTING WITH the unwieldy radio bricks that were found in the trucks of loggers and the cars of celebrities, mobile telephony has evolved toward 4G, through which all sorts of bandwidth-devouring applications will presumably be transmitted.

0G: This refers to mobile radio telephones, which preceded cellular systems. Technology standards include Push To Talk, Mobile Telephone System, Improved MTS and Advanced MTS.

1G: This refers to analog telephony. Standards include Advanced Mobile Phone System (AMPS) and Cellular Digital Packet Data.

2G: Narrowband digital is the most common type of wireless telephone communication today. It permits slow data communication, but its primary focus is voice. Standards include GSM, Integrated Digital Enhanced Network, Digital AMPS and Circuit-Switched Data.

2.5G: This is a bridging standard between 2G and 3G. Digital communication with greater speed and throughput allows e-mail and simple Web browsing. Standards include General Packet Radio Service and High-Speed Circuit-Switched Data.

3G: This is broadband digital wireless service and refers to pending improvements in wireless data and voice communications through a variety of proposed standards. The immediate goal is to raise transmission speeds to 2Mbit/sec. Standards include UMTS and WCDMA.

4G: The step beyond 3G where even video transmission will be almost instantaneous. Standards have yet to materialize.

– RUSSELL KAY

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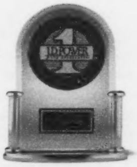

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Geek's Garden

A STROLL THROUGH THE TECHNOLOGY LANDSCAPE

Nematodes, Fruit Flies Lead Way To Cybernose

SCIENTISTS IN AUSTRALIA are trying to produce a new olfactory analysis tool called the Cybernose.

Researchers in a collaborative cluster formed by the Australian National University, Monash University and the Commonwealth Scientific and Industrial Research Organisation's (CSIRO) Food Futures National Research Flagship are trying to understand how simple animals make sense of smells.

The microscopic nematode worm will be central to the Cybernose research because of its highly sensitive molecular-recognition system, which allows it to sense smell and flavor qualities in grapes. The Cybernose will involve putting sensor proteins from insects and nematodes into an electronic nose to replace the current generation of electronic sensors, which are not discriminating enough.

The Cybernose may eventually be used across the food and beverage industries, and in the long term, the technology could be developed to enhance Australia's biosecurity by detecting and intercepting pests and diseases.

Coral Warr, a researcher at Monash University, says the collaborative initiative is an exciting opportunity. "It is bringing together Australian olfaction researchers using very different approaches to solve a common problem: How do animals detect and discriminate odors?" Warr says.

According to Warr, participation in the Flagship cluster has enabled her to bring to Australia one of the foremost insect olfactory electrophysiologists, Marien de Bruyne, thus enabling her group to study odorant receptor function in the fruit fly drosophila in entirely new ways.

Electron micrograph of the head of a fruit fly, whose odorant receptors could help in developing the Cybernose.

SOURCE: CSIRO AUSTRALIA

"The information we generate about how these receptors function will directly benefit CSIRO's development of olfactory biosensors," Warr says.

Although the applications could be numerous, the group is initially working with the wine industry.

"The Cybernose will draw on how the brains of simple organisms such as insects and tiny nematode worms process information about smells and tell the difference between related odors," says Stephen Trowell, the Flagship theme leader. "By 2013, we aim to have in wineries around Australia a Cybernose that will enable the wine industry to objectively measure aroma and flavor – a more reliable measure than chewing some grapes. This will enable winemakers to pick grapes at the time of optimum ripeness and even to tailor the style of wine precisely and so improve its value. This has the potential to contribute $750 million annually to the industry."

GROVES OF ACADEME

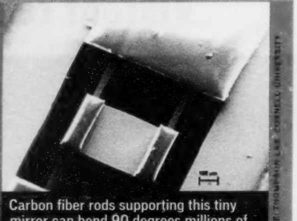
Scientists Tap Carbon for Tiny Video Displays

FOR DECADES, researchers have been trying without success to make video displays using tiny mirrors mounted on silicon oscillators. "You need something incredibly stiff to oscillate at a resonant frequency of 60,000 times a second – the line-scanning rate of most video displays – but it also needs to bend a lot for adequate image size," said Shahyaan Desai, a Cornell University graduate student.

So Desai and his colleagues turned to carbon fiber, which is used to reinforce aircraft body parts. "Carbon fiber is twice as stiff as silicon but 10 times more flexible," says Desai.

Desai first showed that micrometer-scale carbon fibers can bend more than 90 degrees and can be made to vibrate billions of times without breaking down. He and his colleagues then built an optical scanner consisting of a tiny rectangular mirror measuring 400 by 500 microns, supported by two carbon fiber hinges about 55 microns across. Made to oscillate at 2.5 kHz, the tiny mirror caused a laser beam to scan across a range of up to 180 degrees. An oscillating mirror could be used to scan a laser beam across a screen, and an array of mirrors – one for each horizontal line – could produce an image in the same way that a moving electron beam creates an image on a television screen.

"It would be an incredibly cheap display," Desai said. And the entire device would be small enough to build into a cell phone to project an image on a wall.


Carbon fiber rods supporting this tiny mirror can bend 90 degrees millions of times without showing fatigue.

SOURCE: THOMPSON LAB, CORNELL UNIVERSITY

DIFFERENCE ENGINES

Fortran Forever

John Backus

IN LATE 1953, IBM researcher John W. Backus was looking for a more efficient alternative to assembly language for programming the IBM 704 mainframe computer. He wanted a way to make programmer hours more effective.

Backus also hoped to increase program speed. Before the IBM System 704, floating-point operations were done in a software layer that communicated directly with the computer's hardware processor. In the 704, floating operations were all moved into the hardware, revealing inefficiency in code that had been masked by the much greater inefficiencies of floating-point operations.

Another factor that motivated Backus was the desire to provide a language that let scientists write programs that more closely resembled their thought processes.

A user at work on the IBM 704.

The first specifications for the Fortran (Formula Translating) language were published in 1954. Fortran is regarded as the first high-level programming language, closer to human language than assembly language.

The language was widely adopted by scientists for writing numerically intensive programs, which encouraged compiler writers to produce compilers that could generate faster and more efficient code. The inclusion of a complex-number data type in the language made Fortran especially suited to technical applications such as electrical engineering.

By 1960, versions of Fortran were available for several models of IBM computers. The increasing popularity of Fortran spurred competing computer manufacturers to provide Fortran compilers for their machines. By 1963, more than 40 Fortran compilers existed, making it the first widely used programming language supported across a variety of computer architectures.

In the half-century since Fortran was developed, first LISP and Cobol, and then languages such as Basic, C, Ruby and Perl, have received more attention. However, the first high-level programming language remains in use in scientific settings around the globe and shows no signs of disappearing.

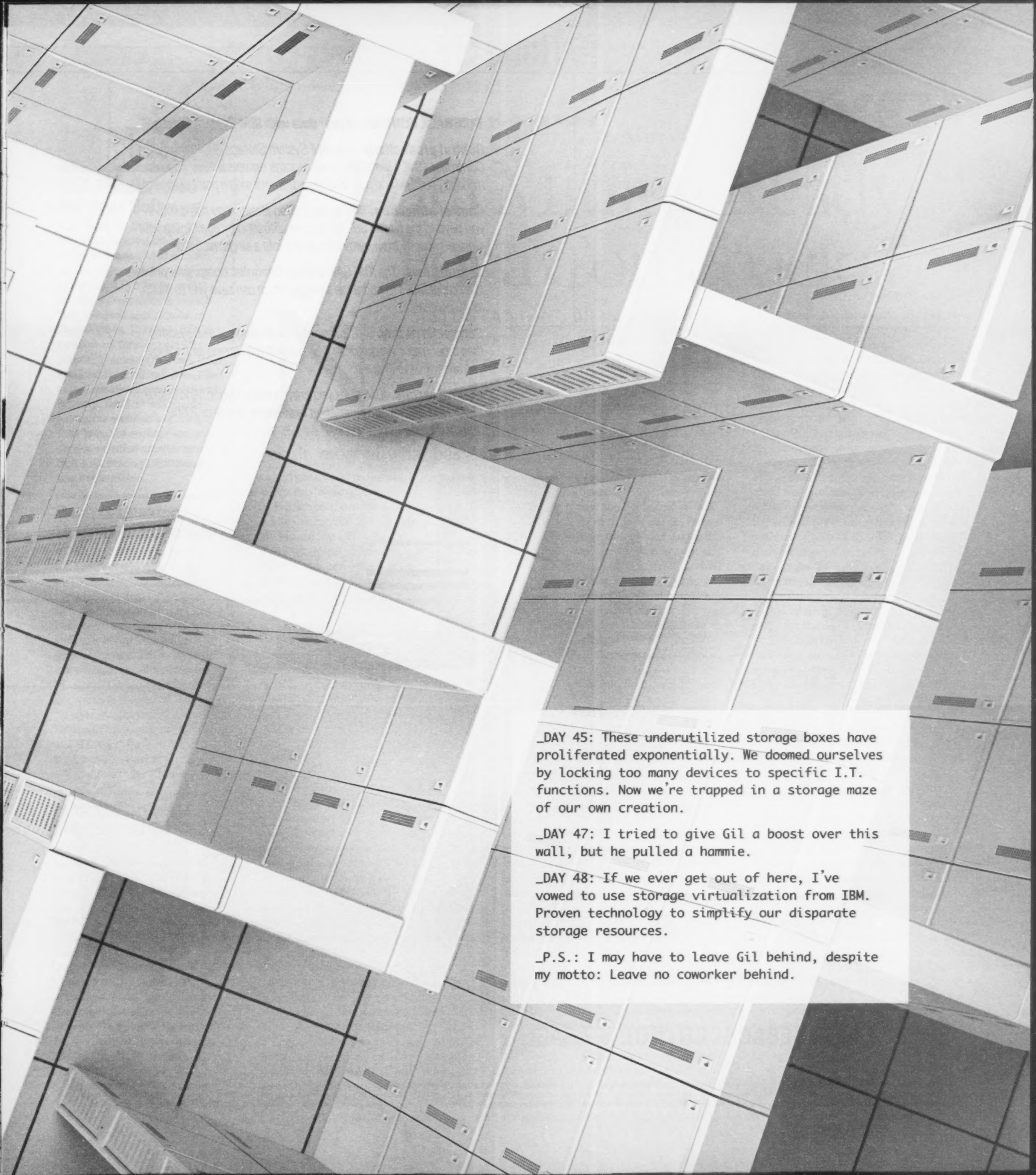
PAGE COMPILED BY TOMMY PETERSON.

IBM

_INFRASTRUCTURE LOG

_DAY 42: Where are we going to find space for this data? Hmmmm, this shouldn't be too difficult...

IBM.

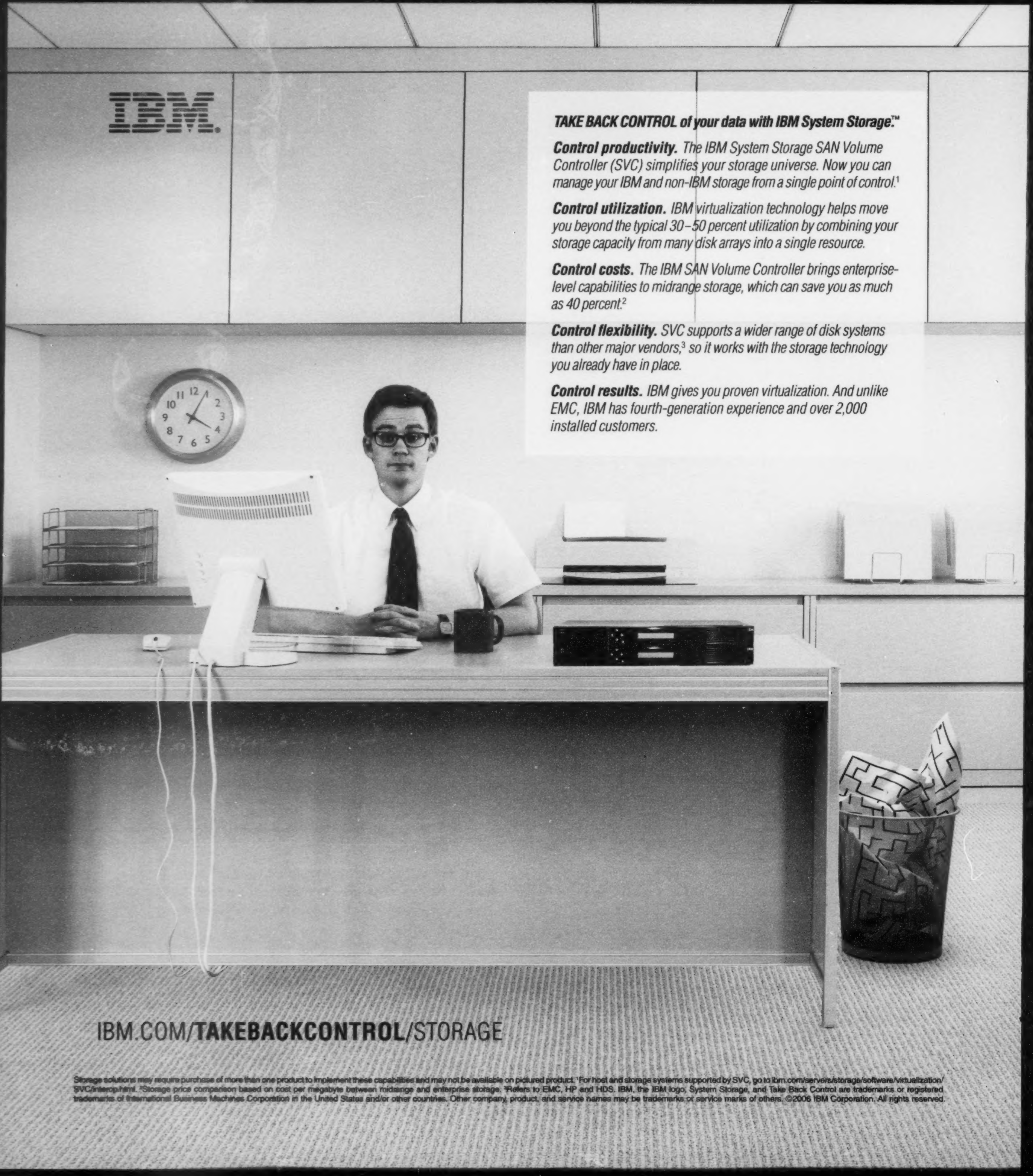


_DAY 45: These underutilized storage boxes have proliferated exponentially. We doomed ourselves by locking too many devices to specific I.T. functions. Now we're trapped in a storage maze of our own creation.

_DAY 47: I tried to give Gil a boost over this wall, but he pulled a hammie.

_DAY 48: If we ever get out of here, I've vowed to use storage virtualization from IBM. Proven technology to simplify our disparate storage resources.

_P.S.: I may have to leave Gil behind, despite my motto: Leave no coworker behind.



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BRIEFS

BEA Readies Web Services Software

■ On Sept. 19, BEA Systems Inc. will announce the availability of Version 1.1 of its Services Architecture Leveraging Tuxedo (SALT) offering, which will allow companies to expose Tuxedo-based applications as Web services. Tuxedo is BEA's middleware for managing distributed processing for very large applications used by banks, telecommunications companies and retailers. SALT 1.1 will enable enterprise architects to bring Tuxedo-based applications into service-oriented architectures, BEA said. Pricing information was not available.

Central Desktop Upgrades Group App

■ Central Desktop Inc. has added integrated web- and audioconferencing capabilities to its Central Desktop application. The updated software lets business users merge wiki tasks with collaborative tasks, as well as schedule and host real-time webconferences directly within the Central Desktop application, according to the vendor. Other features include e-mail discussion groups and support for iCal and Microsoft Outlook calendaring functions. Pricing starts at $25 per month for 10 users.

Empirix Targets Mercury Customers

■ Empirix Inc. last week launched an effort to lure Mercury Interactive Corp. users to switch to Empirix Web application and SOA testing tools. The Mercury Customer Conversion Kit offers users up to a 100% trade-in credit for Mercury licenses when they purchase Empirix's eTest suite, according to Bedford, Mass.-based Empirix. The conversion initiative was prompted by Hewlett-Packard Co.'s acquisition of Mercury last month. The kit also includes a conversion service, free trials of the Empirix tools and access to technical support. The offer ends Nov. 15.

CURT A. MONASH

Data Mining Ready For a Comeback

NOTWITHSTANDING all the emphasis I've put on text data in my past two columns, enterprises also run on numbers. Yet companies are typically staffed by humans, and most humans are somewhat ill at ease with more advanced forms of mathematics. As a result, most of what passes for quantitative analysis in organizations is painfully, often misleadingly, simple.

CURT A. MONASH is a consultant in Acton, Mass. You can reach him at curtmonash@monash.com

However, there are quite a few exceptions to that rule, including the following:

- Data mining/knowledge discovery, which actually includes an increasing amount of text mining.
- Predictive analytics, which overlaps heavily with data mining.
- Forecasting, which is generally regarded as separate from data mining, even though they both rely on related statistical techniques.
- Optimization, which generally refers to the use of operations research techniques that contain a specific concept of "maximization."

How sophisticated you need to be about these techniques depends in large part on your industry segment, unit sales (if applicable) and the size of your organization. Many organizations license large suites of products from SAS. Others try to squeak by using just Microsoft Project and Excel. But no matter what tools you use, the basic story remains the same — enterprises have a lot of quantitative and/or objective data, and if you squeeze that data hard enough, something valuable will probably pop out.

Perhaps the most controversial of these disciplines is data mining. It has already gone through a classic boom/hype phase, complete with breathless business press coverage and widely repeated myths (no, Virginia, there never was a retailer that boosted sales by placing beer next to diapers). As part of that phase, mediocre products were half-heartedly sold by various business intelligence generalists, with predictably disappointing results. And now the doldrums would seem to have set in. Even so, large companies data-mine very profitably, in a broad range of industries, and for a broad range of purposes. And considerable innovation is still moving data mining technology forward. For example, both SAS and Oracle are pushing ease-of-use strategies, but with rather different emphases. (Care to guess which of the two is more database-centric?) When vendors sell analytic applications that contain a good deal of statistical analysis, it's reasonable to say that data mining is involved. Text mining continues to boom. And product sectors such as Web search and antispam rely on data mining for large fractions of their overall research and development.

Many of today's data mining applications can be united under the rubric of customer-offer targeting. This plays a huge role in telecommunications and in travel/leisure/gaming and is important in industries such as traditional retailing, catalog retailing, online retailing, higher education (recruitment) and nonprofit fundraising. Specific areas of application include promotions/campaign targeting, churn prevention, loan loss prevention, price setting, Web site analysis and, of course, antifraud. CRM applications that don't fall neatly under this rubric include text-mining apps such as reputation management or just sentiment tracking.

Another major area for data mining is national security, antifraud and crime prevention. Antifraud actually overlaps strongly with customer-offer targeting, determining whether you want a particular customer's business at all. But there's also a lot of data mining in ferreting out specific fraudulent claims. Compliance-related anticrime initiatives are important too, of course, whether for the prevention of money laundering or even for testing to determine Sarbanes-Oxley Act compliance. Intelligence agencies and crime/terrorism fighters in government use similar techniques and even some of the same data as fraud fighters. Retail loss prevention follows similar patterns. Some of these areas overlap a little with purer portfolio/risk management, a sector whose applications include insurance risk or various kinds of hedge fund investment.

One of the oldest yet fastest-growing areas for data mining is defect tracking. W. Edwards Deming famously innovated early methods, but little happened in the way of increased sophistication for multiple decades. That has now changed. The TREAD (Transportation Recall Enhancement, Accountability and Documentation) Act has compelled automobile manufacturers to scour warranty records and other data for evidence of product defects (this is one of the big drivers of text mining). Other vehicle and electronics manufacturers have followed suit. Drug makers have responded to similar compliance burdens.

The most important application areas of all for data mining may be health care and scientific research. Genomic data, clinical records and medical articles themselves are all mined. Indeed, pretty sophisticated techniques are used, such as text mining and network link analysis. Data mining also contributes to a broad variety of other technical disciplines, from astrophysics to water quality research.

For more of my thoughts on this subject, see *www.monashreport.com/2006/09/02/further-information-on-data-mining.* ▸

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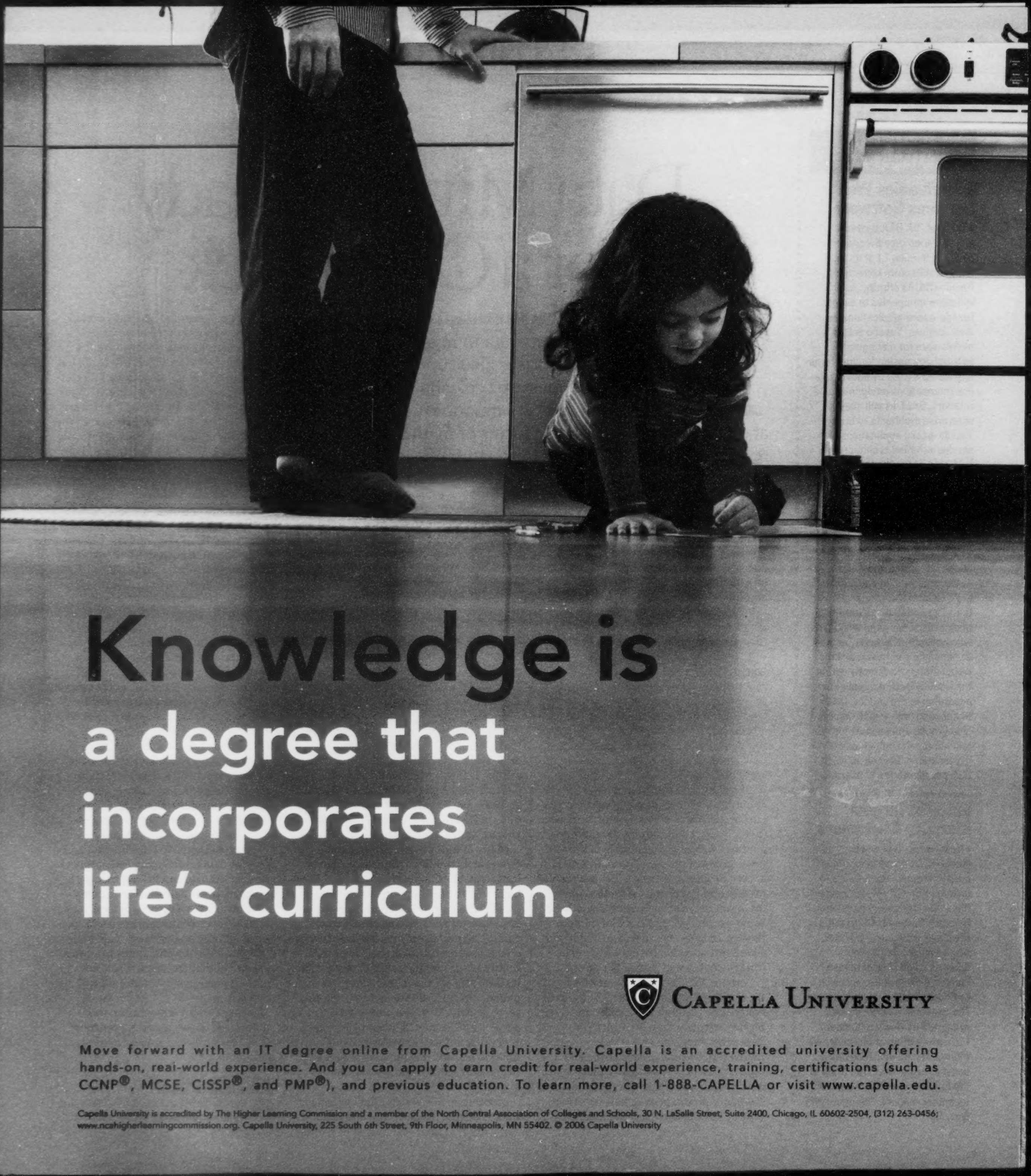
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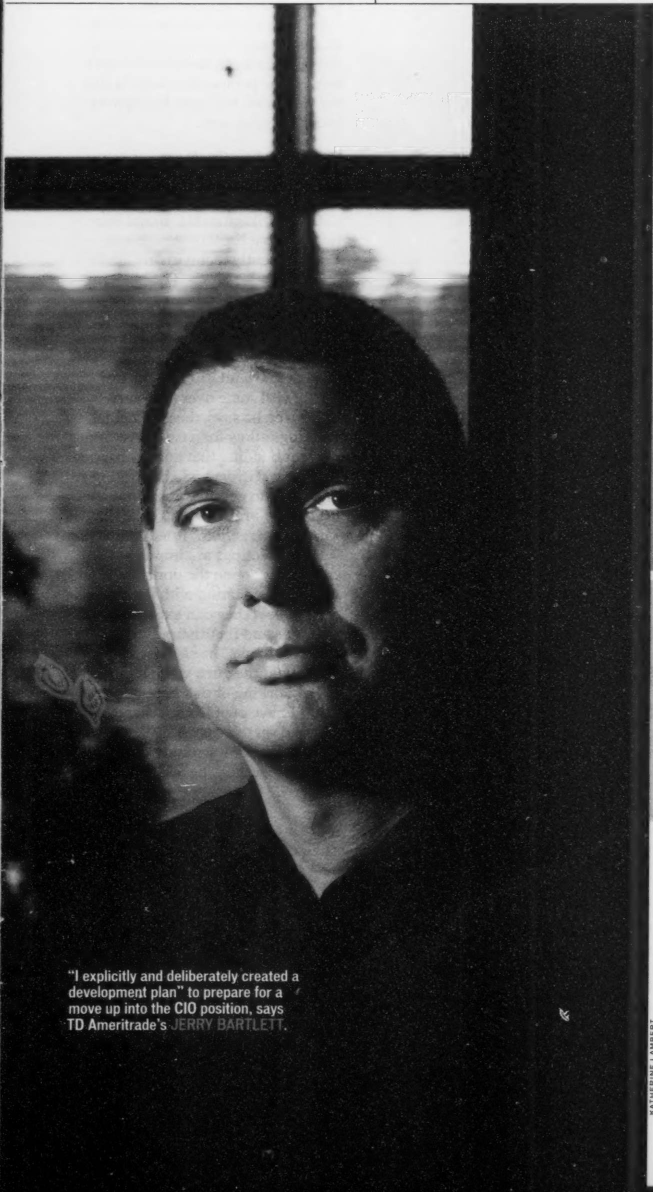
Budget Busters Are Looming
You may have wrestled compliance to a draw, but don't relax yet, says Bart Perkins. He sees a lineup of big-ticket expenses ahead for IT departments. **PAGE 59**



"I explicitly and deliberately created a development plan" to prepare for a move up into the CIO position, says TD Ameritrade's JERRY BARTLETT.

KATHERINE LAMBERT

STEPPING UP

Moving to the top IT spot in your company can be tricky. Here's how five recently promoted CIOs handled the transition.

By Mary K. Pratt

JERRY BARTLETT has had his eyes on the top IT spot for years. He wanted the job, he says, "for the span of influence I can have. That's what drives me; that's always what has driven me: to have as broad an impact as possible."

It's that expanded influence — and the responsibility that goes with it — that makes the chief IT position fundamentally different from other senior-level jobs, says Bartlett, who was promoted last year from vice president of application development and quality assurance to CIO at TD Ameritrade Holding Corp. in Omaha.

Getting to the CIO post requires years of hard work, but that's only the beginning. As Kevin L. Shearan, CIO at Mellon Financial Corp., puts it, "I was a supporting lieutenant. Now I'm the accountable exec."

But while most new CIOs are

MANAGEMENT

ready for increased responsibility and accountability, some might not be as prepared for the transition from their old jobs to the role of chief information officer. Several CIOs promoted in the past year share their thoughts on how to move into the top spot gracefully.

Step Up

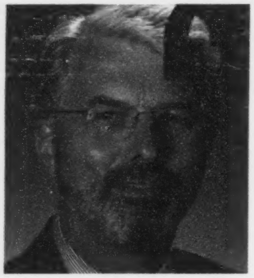
Bob Mitchell moved up from his job as senior director of strategic business analysis and strategic business implementation to group vice president of operations and CIO at GTSI Corp. just as the Chantilly, Va.-based company entered crisis mode because of a troubled ERP implementation.

Mitchell went to work immediately. He set up meetings with managers, peers and other stakeholders to hear their views on IT, the ERP project and what he should do next.

He developed a plan detailing key issues, highlighting top priorities and acknowledging the next 15 or so concerns. And he took actions that had immediate paybacks. For example, during the first 90 days of the ERP implementation, IT had a constant backlog of 300 urgent tickets — that is, requests for service on problems so critical that they should have been addressed within 24 hours. To alleviate the situation, he ramped up the group handling those tickets from five people to 11.

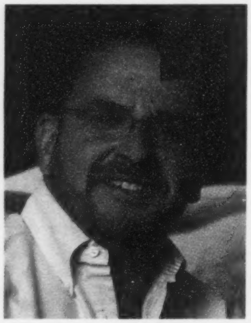
In no way [should you] go in and declare, 'This is the way it's going to be.'

Bob Mitchell, CIO, GTSI Corp.



I was a supporting lieutenant, now I'm the accountable exec.

Kevin L. Shearan, CIO, Mellon Financial Corp.



If I have people with . . . expertise and there's a trust between us, that makes for a stronger organization all together.

Brad H. Friedman, CIO, Burlington Coat Factory Warehouse Corp.

Back Your Visions With Action

Newly promoted CIOs say it's essential to take charge and establish your own vision for your IT department within the first few months of taking the reins. But that's not enough; they say it's equally crucial to back your vision with actions that get noticed.

In March, Puneet Bhasin moved from senior vice president of global technology at Maynard, Mass.-based Monster Worldwide Inc. to CIO for North America. Part of his vision for his IT department is a high level of service to its customers.

So in advance of a major software release this summer, he initiated conversations with other Monster executives about how the release would proceed, giving them candid details about when it would happen, what problems were expected and how they would be handled. After the release, he solicited their feedback about the process and the new application to learn from the experience.

"Your actions speak for themselves," Bhasin says. "It's practicing what you preach."

But Mitchell cautions against doing too much too fast. "If you're going to be a leader, overly exerting your new position is not the way," he says. "Some people feel such an angst around those first 90 days that they jump to conclusions."

He advises against issuing edicts as a way to show strength. "In no way [should you] go in and declare, 'This is the way it's going to be,' " Mitchell says.

To avoid that, he worked to establish a team environment, where he and his staff collaborate to make the best decisions.

Make Your Mark

Shearan didn't plan an all-out shake-up for the IT department when he was promoted from executive vice present of technology to executive vice president and CIO at Pittsburgh-based Mellon Financial. But he did make management changes to align his team with his way of working.

For instance, Shearan scrapped his predecessor's review process for major projects. The former process involved a lot of people sharing ideas in a roundtable format that he says just wasn't his style. "My belief is that people get more value out of an in-depth discussion with an executive [than] a brief overview," he explains, adding that the IT department now has regular in-depth reviews instead of the broader forums.

Shearan also reviewed his management team and their duties, going several levels deep. It was useful to do this around the time of employee goal-setting, he says.

He didn't make personnel changes among his direct reports, but he did bring in fresh blood at the next level. "The perspective was, 'Is this my team, and will they be supportive?' " Shearan says.

Reach Out to Staff

Brad H. Friedman, who this spring moved from vice president of IT to CIO at Burlington, N.J.-based Burlington Coat Factory Warehouse Corp., recently met with his developer group for lunch. The big item on the agenda? Getting to know one another better.

Though Friedman already knows many of his staff members, he doesn't know all 250 and has lost touch with some over the years. Moreover, he says, these informal meetings allow for a casual yet important bonding that doesn't happen every day. "Everybody is working so diligently to get their jobs done that it's next to impossible to have that kind of interaction," Friedman says.

Such meetings are important because they "open the door" for honest communication with his staffers "so they feel they can express their opinions and that their opinions are valuable to me," he says.

"I'm not the guru when it comes to networking or database design, but if I have people with that expertise and there's a trust between us, that makes for a stronger organization all together," he adds.

Reach Out to Peers

CIOs promoted from within have the advantage of already knowing their colleagues, but Shearan didn't assume that he knew all he needed to know about his new peers' work and how IT could support it. He wanted to be sure he understood their priorities and figure out how he could address them as the new leader at the helm.

"I sat down with these guys on a number of occasions to really get at what is important to them that might have been put on a shelf," Shearan says. He also asked if they felt there were technology initiatives that didn't add value.

"It was important to them, and having those conversations gave these guys the opportunity to just

Continued on page 51

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open up," he explains.

Likewise, Shearan built new top-level relationships with vendors that were working with his company. As CIO, he says, "I found I had access to the vendor executives. They are a fabulous resource."

One meet-and-greet with a vendor executive led to a joint project to work on a new research capability, he says.

Recognize the New Dynamics

Newly named CIOs acknowledge that the promotion creates new dynamics in the office: Peers become subordinates; superiors become peers.

"There's the potential for discomfort. But my rule of thumb was that I will treat [my employees] the way I want my boss to treat me," Bartlett says, and that's with respect and acknowledgement for a job well done.

Bartlett acknowledged early that the roles had changed, and he spelled out his expectations of his staff. "One of my first conversations with my direct reports was a request: 'Despite the fact that I'm now your boss, I need you to be open and honest with me when there are things I can do for you or things you think I could do differently.' And the other was a statement: 'Being consistent with my principles of open and honest communication, I'm going to tell you when you need to do something differently,' " he says.

Dealing with superiors-turned-peers also presents challenges, which is why Bartlett and others say it's best to focus on building relationships with colleagues sooner rather than later.

When Shearan was promoted, he made a list of people with whom he needed to spend time to better understand their roles in the business.

Prepare Now

It's never too early to lay the groundwork for a move up. Bartlett says he started preparing for the CIO job years ago. "I explicitly and deliberately created a development plan," he says. He sought feedback from other executives, emulated executive behaviors he admired and "provided clear value" in the jobs he held on his way up.

He even sought the help of his predecessor, at one point asking him, "If you were going to go be a CEO somewhere, what would my performance need to be for you to want me to come with you to be your CIO?"

Bartlett says his predecessor, now the company's chief operating officer, assigned him corporatewide initiatives and responsibilities that brought him into the so-called C-suite. In short, Bartlett says, his boss was instrumental in "helping me have the opportunities to develop the skills that made me the clear choice for CIO." ▸

Pratt is a Computerworld *contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

It Really Is [illegible]

CIO JERRY BARTLETT SAYS one of the hardest things about moving up was seeing his circle of confidants shrink at the same time his responsibilities grew.

"You've got to sort through a lot more, either by yourself or with just one or two other folks," he says, explaining that CIOs and other executives often deal with issues whose details can't be disclosed or shared with colleagues who might offer insight.

It's true, he says: It's a bit lonely at the top.

But Bartlett, who is CIO at TD Ameritrade, found a way to counteract some of that by cultivating relationships with new peers with whom he can discuss ideas, seek insight on tough situations or just vent.

Kathy Hill agrees. "You have to have a support network. It's important not to try to do it by yourself. You don't have to have all the answers," says Hill, a professional coach in career and life transitions at Hill Consulting Inc. in Raleigh, N.C.

She says that until promoted executives develop a network, they can find the support they need by hiring a coach or seeking advice from others who have been in similar situations. She also suggests that they join or create a "mastermind group," a small group of executives in the organization at the same professional level who meet in person or on the phone weekly to share challenges and solutions.

Regardless of what you call this group, she says, "almost every successful person has been part of one."

– MARY K. PRATT

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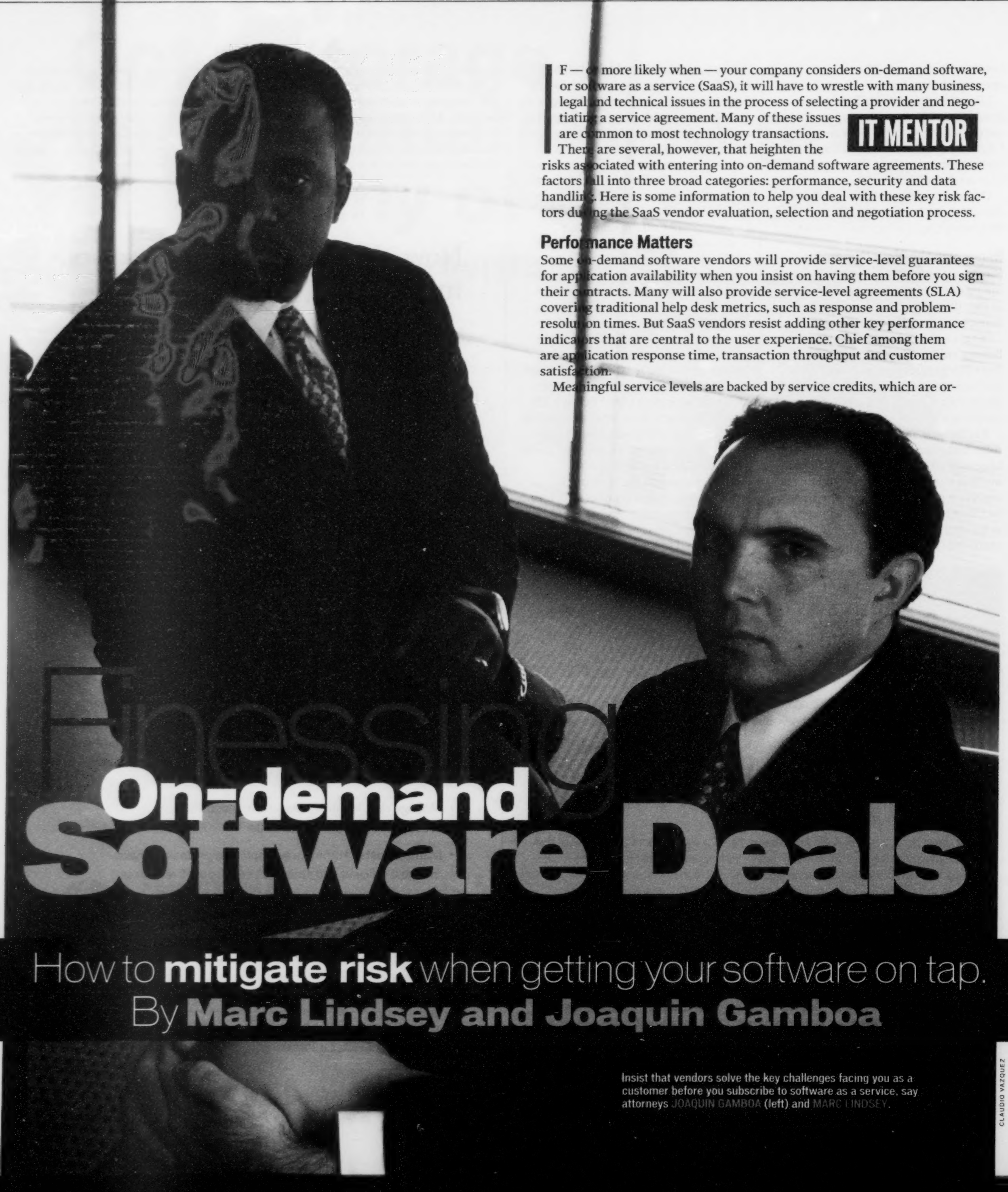


IT MENTOR

IF — or more likely when — your company considers on-demand software, or software as a service (SaaS), it will have to wrestle with many business, legal and technical issues in the process of selecting a provider and negotiating a service agreement. Many of these issues are common to most technology transactions. There are several, however, that heighten the risks associated with entering into on-demand software agreements. These factors fall into three broad categories: performance, security and data handling. Here is some information to help you deal with these key risk factors during the SaaS vendor evaluation, selection and negotiation process.

Performance Matters

Some on-demand software vendors will provide service-level guarantees for application availability when you insist on having them before you sign their contracts. Many will also provide service-level agreements (SLA) covering traditional help desk metrics, such as response and problem-resolution times. But SaaS vendors resist adding other key performance indicators that are central to the user experience. Chief among them are application response time, transaction throughput and customer satisfaction.

Meaningful service levels are backed by service credits, which are or-

Finessing On-demand Software Deals

How to **mitigate risk** when getting your software on tap.

By **Marc Lindsey and Joaquin Gamboa**

Insist that vendors solve the key challenges facing you as a customer before you subscribe to software as a service, say attorneys JOAQUIN GAMBOA (left) and MARC LINDSEY.

CLAUDIO VAZQUEZ

dinarily applied to your invoice when performance falls below a predefined threshold. But vendors often try to incorporate into their SLAs overly broad exclusions, procedural hurdles and liability limits. As a result, actual performance guarantees tend to be considerably worse than they appear. Through persistent negotiations, however, you can eschew the onerous exclusions, hurdles and liability limits vendors try to include. Here are some techniques that can help you:

- Include escalating credits that vary based on the severity, duration and frequency of the performance failures.
- Require the vendor to proactively apply credits as soon as a service-level failure is identified.
- Remove provisions declaring that service credits are substitutes for other contract remedies available to the customer.
- Limit maintenance windows to a predefined off-hour time period.

As a general rule, service-level credits alone aren't enough for you to effectively enforce SLAs. Consequently, you have to negotiate SLA improvements to fill the gaps. Here are some gap-filler provisions:

- Insist that the vendor conduct a root-cause analysis and implement a corrective action plan without additional cost to you.
- Escalate chronic or critical service-level problems within the vendor's and your own senior management.
- Include your right to terminate the agreement for cause or shorten the term of the agreement when performance failures reach critical levels.
- Establish a service-level management approach that allows you to monitor the vendor's performance.
- Conduct periodic performance-review meetings with the vendor.

Not every on-demand application has to be designed to provide premium levels of service across a wide variety of performance indicators. Because your company depends on its enterprise applications, however, minimum levels of acceptable performance must be attained in order for you to receive the basic benefits of SaaS. If you and your vendor fail to document minimum performance thresholds in advance, it's unlikely that your expectations and the vendor's delivery assumptions will conform, leaving you in an unpleasant and potentially costly predicament.

Exposing Security Vulnerabilities

Security vulnerabilities in a Web service on-demand software environment may occur for a variety of reasons, such as design defects, poor patch/update management, ineffectual controls of authentication credentials, storage and transmission of sensitive data without encryption, and inadequate procedures for security incident monitoring, reporting and mitigation. These vulnerabilities aren't unique to on-demand software, but they are more pressing in the on-demand software context.

To increase the likelihood that your SaaS arrangement will be sufficiently secure, you must make security one of the determining factors in vendor evaluation and selection. As part of the evaluation process, you should do the following:

1. Require the vendor to describe its physical and logical security practices, processes and management approaches as they relate to the services offered.

2. Ask the vendor to indicate whether it will comply with your security policies and procedures.

3. Evaluate the vendor's security practices, processes and technologies — all before signing the service contract.

Seek the right level of security given the context of the application, but try to avoid overburdening the software with unnecessary and potentially expensive security features. To achieve this balance, the negotiated agreement should document your security requirements and the vendor's security responsibilities. Here are some other security-related provisions worth including:

- Acknowledgment of your right to conduct periodic security assessments.
- Assignment of responsibility for security incident detection, reporting, response and mitigation.
- Vendor representations and warranties regarding its compliance with data-handling laws and regulations.
- A process for management escalation of unresolved security problems.

Once the contract is signed, you must use the mechanisms you negotiated to oversee the vendor's security activities. Although you can delegate certain responsibilities for security-related tasks to service providers, ultimate accountability for protecting your information assets always remains with you.

Controlling and protecting customer data should concern anyone considering software that uses databases designed, hosted and administered by a vendor to store and retrieve customer data. When negotiating data protection and business continuity contract provisions, you should rely on key principles to help you manage the risks that arise when your important data is stored and processed by a third party outside your firewall.

In light of the risks associated with remote storage of critical customer data, you shouldn't entrust a vendor with your data unless 1) the vendor demonstrates its data protection and business continuity capabilities during your precontract due diligence, and 2) your agreement with the vendor specifies the vendor's ongoing data protection and business continuity obligations and holds the vendor liable for failures to satisfy those obligations.

For companies with international operations or companies operating in certain industries in the U.S., such as financial institutions or health care providers, the contract ought to prescribe the parties' respective obligations to comply with applicable data protection and privacy laws. The applicable data protection laws may come from a variety of jurisdictions, including the countries (or states) where your company does business and the countries (or states) where your data is processed or stored. The contract should incorporate the relevant portions of your privacy policies and obligate the vendor to conform to those policies.

Standard vendor disclaimers of responsibly for lost data are not acceptable in a SaaS deal. The service agreement should do the following:

1. State that your company owns its data and has access to it under terms defined by you.

2. Describe the vendor's and your responsibilities in connection with recovering lost data.

3. Have clear instructions on how the vendor will handle your data in its possession and return it to you when the contract expires or is terminated.

Even more important, make sure that your data is backed up regularly so it can be recovered whenever the primary data source is lost, corrupted or unavailable. To complement the backup procedures, insist that the vendor implement (and regularly test) a disaster recovery plan. Effective disaster recovery plans specify the maximum time it will take the vendor to recover from catastrophic events, and they will trigger service-level credits or even termination rights when the time limits are missed.

For applications that are mission-critical, you may want to exclude from consideration any on-demand software that doesn't offer business continuity services employing data replication in geographically diverse data storage systems.

The financial incentives and rising industry frenzy will pressure many companies to look at the SaaS delivery model to decide whether it represents a meaningful alternative to on-premises enterprise software in at least some instances. At this critical point in the evolution of on-demand software, you should insist that vendors solve the key challenges facing you as a customer before you subscribe. By doing so, you can benefit from the SaaS value proposition secure in the knowledge that you aren't exposing your company to undue risk. ▶

Lindsey is a partner and Gamboa is an associate in the Washington law firm of Levine, Blaszak, Block & Boothby LLP. Contact them at mlindsey@lb3law.com and jgamboa@lb3law.com.

You?

Some applications are not good candidates for software as a service. Some examples:

- Those that require tight and ongoing integration with in-house systems.
- Those that need to be integrated with applications supported by other SaaS vendors when the vendors have not precertified the interoperability of their respective software.
- Those that require code-level modification to customize on-premises enterprise software. Such changes are traditionally used to implement customer-specific business logic, data structures and processes.
- Those that implement unique business processes that confer competitive advantage.

– MARC LINDSEY AND JOAQUIN GAMBOA

Key Customer Benefits

Software as a service offers undeniable benefits:

- Implementation effort (and cost) is lessened.
- Customers realize the benefits of newly adopted software or business processes sooner.
- Customers pay for something close to their real usage, unlike with perpetual licenses, where pricing models normally require them to purchase more capacity than they actually need.
- Through specialization, vendors should be able manage their on-demand software more efficiently than customers' in-house IT organizations would.

SHELLEY CUDLY's role is to reduce the friction between IT and the business.

MIKE MALONE

Greasing The Skids

Business analysts seek the quickest route to business benefits.

WHO'S WHO IN IT

NAME: SHELLEY CUDLY

JOB: BUSINESS ANALYST CONSULTANT

EMPLOYER: TD AMERITRADE INC.

YEARS IN IT: NINE

YEARS IN CURRENT SPECIALTY: EIGHT

What is the most important contribution you make, and how do you make it? Being a liaison between the business and the tech sides. Our job is to understand the business or user need and translate that to the tech folks and make sure they deliver. The thing I produce is usually a requirements document, which may seem dull, but the act of getting to that is the big contribution I make. I have to think of things in new ways to get to the heart of what we're trying to accomplish. I like to think of the job as greasing the skids: How can we [achieve] the most benefit the quickest and least expensive way?

What is the most important IT skill/aptitude you need to do your job? It's analytical thinking. Some people are natural business analysts because their brains work that way. You just naturally tear everything apart to figure out how it works, then recompartmentalize, regroup, redefine, move things around and see how they can work differently. There are not many people who can walk something through and see if we have everything. They get to the test and say, "We forgot about *x*." My job is to think of that a couple weeks earlier, get it all to fit the right way. And I feel passionately about it.

What is the most important soft skill or personality characteristic you need to do your job? The first thing is to listen and hear what people are saying — and not just the words. You know the old IT joke: We gave them what they asked for but not what they wanted. Well, that's because you didn't hear something. It's not just what they say, but what they mean. You have to get in and dig. It's about listening and asking people to define the terms and not assuming you understand. That's the key.

What is the biggest misconception about what you do? This is not a particular problem here, but I think generically people may think I'm a glorified note-taker. They think people say, "This is what I need," and I write it down and make tech build it. But you have to really engage people and help them figure it out, and you get to think, too. That's what makes it exciting. You get to use analytical and listening skills and help them create the best solutions. It's not just taking orders. We all have to work together. It's a team effort.

What do you like best about your job? I get to use a lot of different skill sets. That's what led me to technology in the first place. I get to use both sides of my brain. I work with a business group and have a creative brainstorming session, but I also have to be analytical and think through the details. I have to know how technology works and also how to negotiate with the client: "We can't do this in this time frame, but how would this work for you?" I'm a translator.

What do you like least about your job? I feel in some cases, we're our own worst customer. When we try to define tools to help ourselves out, we let ourselves do things we wouldn't let our regular clients do — like scope creep — and we don't get anywhere. It's often not a high-priority item, so everybody gets reassigned and we stall out. I think, "We're good at this; what are we doing?" It just seems like we can't use best practices on ourselves.

What should other IT people know about your role? The answer is the same for IT and business people, because my job is to champion the best solution for clients and technologists. To do so, I must understand the problem so that I can help the project team make the best decisions. Tech folks bring me questions that require a business response, and I need to know if I can champion the simplest technology solution or if I must champion a potentially more difficult one to meet the project and business needs.

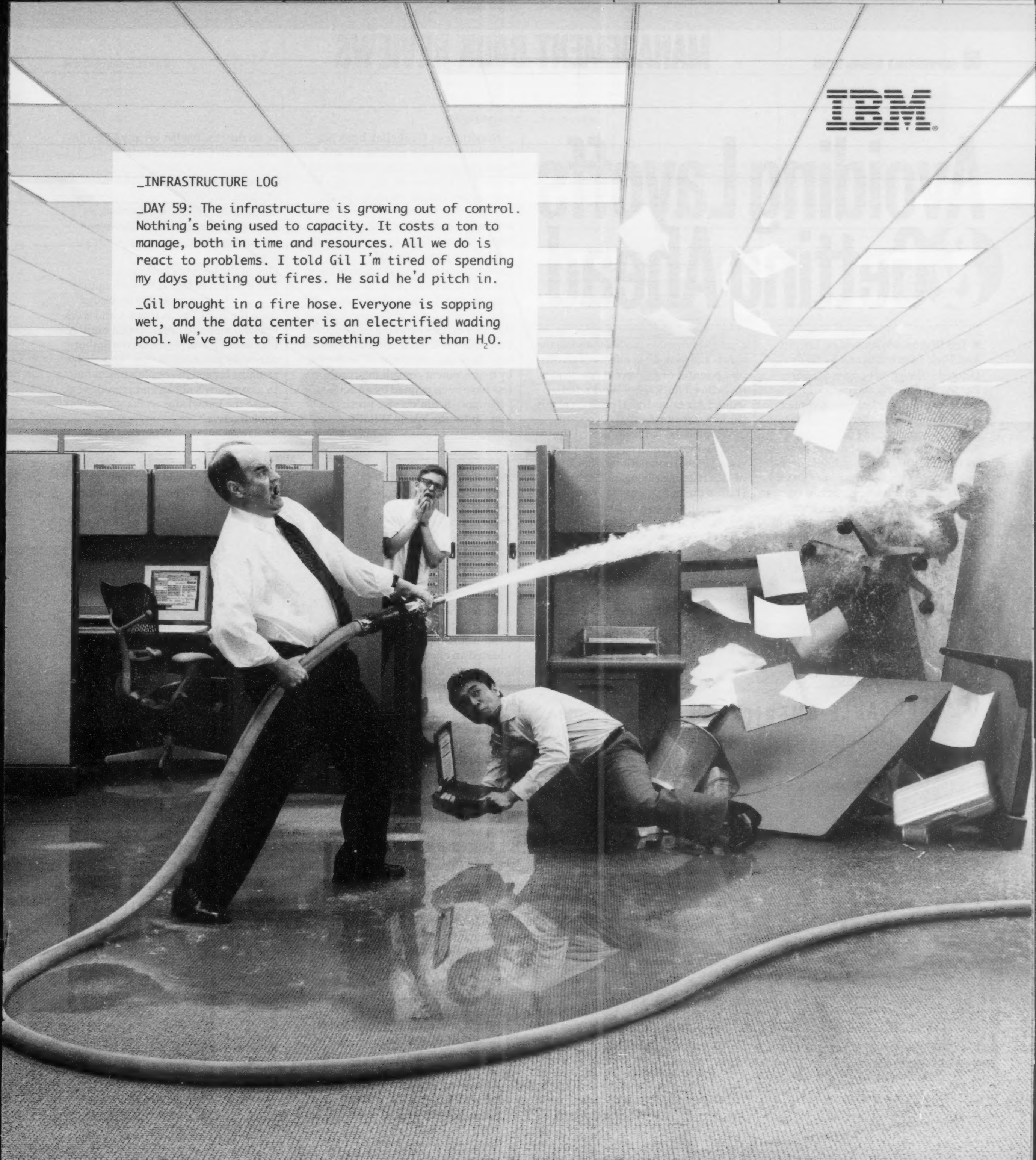
I try to be the good guy all the time, but it doesn't always work out. If I have to tell business or tech people they can't do it this way, I will. Sometimes we all have to give a little.

What would enable you to do your job better? I think when I do my job best is when the business roles are clearly defined on a project — when I know who the ultimate decision-maker is. Especially in times of fast growth and transition and new organizational structures, I don't always know who owns what, and it takes time for me to track that down. When there's a really strong person on the business side who can give me answers right away, I can move much more quickly.

If you were not a business analyst, what would you be? I think I would become a trainer. One of the parts of my job I really like is working with cross-functional groups and [helping them figure out] what's the best thing to build. And I help train new business analysts. I really enjoy that kind of work.

How does the future look for your role? I was at a business analyst conference last year, and they said the demand for business analysts was going to increase. I think the role has become more defined. They used to call anyone a business analyst. Now it's getting to where people really understand requirements, analytics, project management. I think people are seeing the value of that interpretive person who rides the fence between business and IT. So it looks good for me personally, and from what I've read, the future is pretty bright. ◆

Interview by Kathleen Melymuka.



_INFRASTRUCTURE LOG

_DAY 59: The infrastructure is growing out of control. Nothing's being used to capacity. It costs a ton to manage, both in time and resources. All we do is react to problems. I told Gil I'm tired of spending my days putting out fires. He said he'd pitch in.

_Gil brought in a fire hose. Everyone is sopping wet, and the data center is an electrified wading pool. We've got to find something better than H_2O.

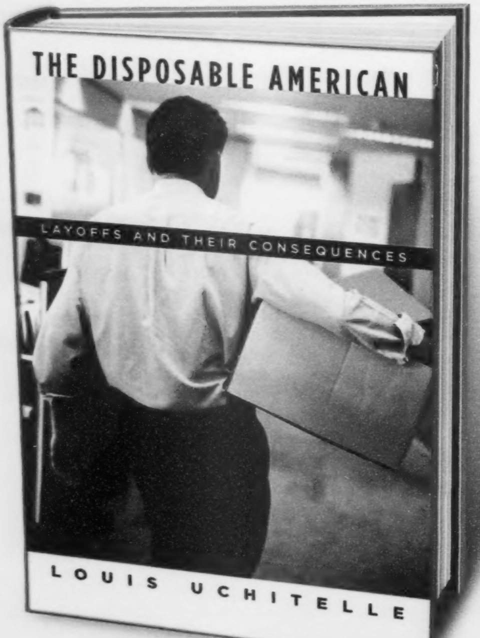
Avoiding Layoffs & Getting Ahead

■ **The Disposable American: Layoffs and Their Consequences,** *by Louis Uchitelle (Knopf, 304 pages, $25.95).*
Large-scale layoffs and outsourcing have gradually become accepted business practices over the past 30 years among company boards and Wall Street analysts, who have been increasingly demanding about corporate dividend and earnings-per-share growth. The tacit acceptance of layoffs and outsourcing by top brass is unfortunate, particularly for the millions of victims and their families who have been affected by these cost-cutting measures. Author Louis Uchitelle argues that CEOs should strive harder to find alternative approaches to improving earnings.

Uchitelle, an award-winning economics writer at *The New York Times*, does a serviceable job of exploring the short- and long-term effects of layoffs on a handful of workers at companies, including The Stanley Works and United Air Lines Inc. He also explains the key transformational economic developments that have altered the U.S. business landscape, including the rise of global competition, the demise of U.S. manufacturing and an upward shift in the number of lower-paying, lower-skilled jobs available in an increasingly services-led economy.

Uchitelle draws a solid connection between job security, employee incentives and output, particularly during the period of 1945 to 1970, when labor markets were tight and domestic and international profits were growing at then-record rates. It's a poignant reminder of a time not so long ago when U.S. workers took pride in the companies they worked for and felt like members of a family.

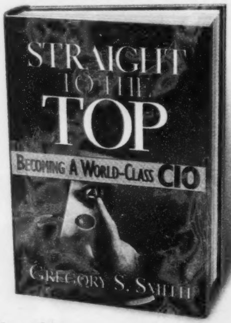
Still, for all these strengths, many of Uchitelle's prescriptions to reduce the number and frequency of future layoffs seem a bit pie in the sky. For instance, although Uchitelle is on target in stating that the federal government should divert more investment into the nation's crumbling highways, bridges and infrastructure to help stimulate U.S. job growth, his suggestion that Uncle Sam should "take the lead" in developing emerging technologies that the private sector has deemed too risky, such as alternative energy sources or flat-panel screens, simply isn't well reasoned.



Nonetheless, Uchitelle's book is a thought-provoking read for IT and business managers alike, who should explore all options for improving the bottom line before wielding the ax.

■ **Straight to the Top: Becoming a World-Class CIO,** *by Gregory S. Smith (Wiley, 256 pages, $34.95).*
Unlike corporate roles that have been around for decades, such as CEO and chief financial officer, chief information officer is still a relatively new designation that carries evolving responsibilities. And while a fair number of books have been written about IT leadership by management consultants, precious few have been penned by an active CIO.

Gregory S. Smith, vice president and CIO at the World Wildlife Fund in Washington for the past six years, provides would-be IT chiefs with a well-constructed guide for the skills that can help them reach the top of the IT food chain.



This book has a lot going for it, starting with an author who has plenty of hands-on experience. But even though Smith has crafted his own successful career path and charted an effective IT governance strategy at WWF, he doesn't rely solely on his own accomplishments and insights. Instead, the book draws extensively upon research from advisory firms and interviews with other CIOs and executive recruiters. It's also sprinkled with plenty of interesting charts and memorable quotes to help break up the reading.

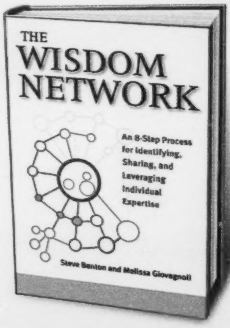
The book is split into two sections: One focuses on building the necessary skills and relationships to become a CIO, and the other looks at preparing for the role of CIO. The first segment contains many useful insights, including Smith's discussion about communication styles and skills, and the second half is packed with gold nuggets. Here, Smith touches on a variety of pertinent topics that you don't normally come across in IT leadership books. These include tips on how to prepare for a meeting with an executive recruiter and great forums for networking.

Smith's book should be on the reading list for any IT professional with CIO aspirations.

■ **The Wisdom Network: An 8-Step Process for Identifying, Sharing, and Leveraging Individual Expertise,** *by Steve Benton and Melissa Giovagnoli (American Management Association, 228 pages, $27.95).*
One of the biggest challenges corporate executives face is how to capture and use the vast array of knowledge from the front-line managers and workers who make an organization hum. A big part of the problem, as the authors shrewdly point out, is that "knowledge remains lodged in people's brains or in a company's nooks and crannies because the knowledge exchange system is ineffective."

Without a doubt, effective knowledge management is a lot easier said than done. But the authors do a very good job of describing something that's quite often intangible: the steps that executives can and should take to unlock and leverage their organizations' intellectual capital.

Benton, who is executive director of IT at the Chicago office of UBS Investment Bank, and Giovagnoli, founder and president of Chicago-based consultancy Networlding Leadership Resource Center, do a terrific job of drawing from each other's respective experiences and providing practical insights that readers can apply. For example, they explain how to identify the people who consistently resolve problems in the organization, and they suggest steps that leaders can take to foster collaboration and break through communication barriers that calcify between corporate walls and cubicles.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What I like most about this book is that it isn't the usual academic blather about knowledge management. Instead, the authors draw from their own work lives and provide a step-by-step road map for knowledge management that readers can follow. ▸

Reviewed by Thomas Hoffman.

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GET THE Dirt ON YOUR Data

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By Catherine LaCroix

STAMPIN' UP INC. is a direct sales company in Riverton, Utah, that manufactures and distributes rubber stamp supplies. In the summer of 2004, at the end of its highest sales season, Stampin' Up's manufacturing resource planning system stopped sending the company orders to make more stamps because it was showing that the items were already in stock. But it was inventory that didn't exist. The culprit: dirty data.

"It took a few days to figure it out," says Steve Gockley, manager of Web infrastructure, Web sites, and business intelligence and analytics. "Once it was found, we had to cut work orders and do some emergency manufacturing."

Lucky for Stampin' Up, the backlogged products weren't available from competitors. Otherwise, customers might have gone elsewhere. But employee morale suffered. "It takes a while to build confidence back up," says Gockley.

Dirty data is data that is incorrect, missing or misplaced. And it's everywhere. In a 2006 poll of 1,160 knowledge workers by Harris Interactive Inc., 75% of the respondents reported having made critical business decisions based on faulty data. "In any company of any size, dirty data is a factor," says Gockley.

That's because data is dynamic by nature. Manually entering data, integrating systems or repurposing data, or something as simple as a customer moving, dying or marrying, can mess things up. The trick is to find errors and fix them.

"A lot of determining whether data is dirty is about looking at trends," says Susan Nonken, financial reporting systems manager at ABB Inc., a provider of power and automation products in Norwalk, Conn. If you're looking at data that seems too good, too bad or just too strange to be true, it probably is.

Also look for errors in data drawn from multiple sources and formats. Move Inc. in Westlake Village, Calif., aggregates listings from real estate agents and brokers. "We have to get the data whatever way we can," says Bill Weir, director of business systems. The result: a high possibility of errors, he says.

Once you know you've got faulty data, you've got to fix it, and the hurdles may be more than technical. People may be reluctant to relinquish control of their data, even to render it more useful. And customers can get impatient. "They want to know why you can't fix it right away," says Bita Mathews, data warehousing manager at Move.

Getting executive buy-in can help. So can educating users about the processes and complexities of data warehousing. "We have learned that the frequency of a message is as important as the message itself," Mathews explains.

Another challenge, says Weir, is keeping data clean once you scrub it. That requires some careful decisions about data-quality governance, enforcement and maintenance. The commitment isn't just to the cleanup, says Weir, but to "how data quality will be enforced, and what the integration and architectural guidelines should be for data quality standards."

Be prepared for an ongoing process, says Mathews. For example, because Move often finds multiple listings of the same property, she has had to make de-duping (or deleting multiple records) part of her routine.

"It's not a one-step process," says Robert Lerner, an analyst at market research firm Heavy Reading in New York.

John Leslie agrees. The chief technology officer at Wall Street On Demand Inc., which hosts financial research Web sites, says that establishing a system of data checks is key to keeping the company's data clean. "We've built our system so that if a vendor sends us an XML schema that says this field is a date, we will parse it out and validate that it is," Leslie explains.

"Adding in those kinds of checks is very important," he says. "You can't just tack quality at the end; you have to build it throughout the process."

Any way you slice it, it's going to take time and money to get your data clean. "We spent a year on this issue," says Gockley. And Weir says Move has spent $300,000 to $500,000 in time and technology tools so far.

But it's worth it. Lerner says return on investment can be calculated by figuring the costs saved by avoiding the erroneous results and the repair work associated with inaccurate data. But the real payback is having an accurate picture of your organization and a better understanding of your customers, he adds.

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Standards are the key to clean data. "What's acceptable? What should be there and what shouldn't be there? What format should it be in?" Gockley says. In addition, he says, constant monitoring is crucial.

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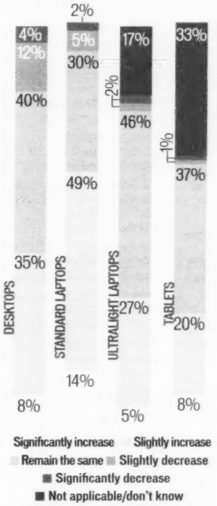

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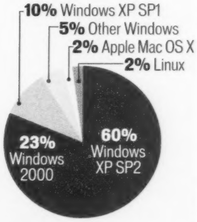

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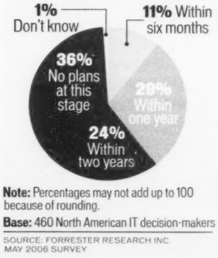

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BART PERKINS

Budget Busters Are Looming

OVER the past few years, Sarbanes-Oxley Act compliance, as well as privacy and security regulations, have wreaked havoc on IT budgets. Despite the difficulties, many companies have made good progress in these areas, and their CIOs are looking forward to more budget flexibility in the next few years. Unfortunately, new budget busters looming on the horizon will continue to affect IT spending.

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Start planning now for these approaching costs:

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E-waste. Disposal of PCs, printers, copiers and phones is becoming more difficult and expensive. The European Union's Restriction of Hazardous Substances regulations mandate strict disposal methods for lead and other hazardous electronic waste. Congress is considering similar measures, including the Computer Hazardous Waste Infrastructure Program Act and the Electronic Waste and Recycling Promotion and Consumer Protection Act. In addition to hardware recycling, companies would be responsible for completely erasing disks to ensure that company data is not compromised and that software licenses are protected. Proper disposal could easily cost $60 to $100 per PC.

Major application suite upgrades. Oracle and SAP are developing major new releases of their software. Although both companies promise to support current versions for several years, most customers will likely migrate over the next two to three years (or eventually face operating their businesses on unsupported applications). The inevitable migration process will be large, complex and costly.

Electronic records retention (ERR). Most organizations have records-retention policies for customer data, employee records and corporate data such as memos, presentations and spreadsheets. But fewer retention policies cover e-mails, instant messages, chat room exchanges, blogs, cell phone voice messages or voice mails embedded in e-mail. Capturing, organizing and storing this data is expensive, but it can be critical when legal issues arise. In the event of litigation, IT must be able to produce the electronic data and show that it is authentic and unmodified. (The stakes can be high. Morgan Stanley client Ron Perelman recently won a $1.45 billion judgment against the firm when it was unable to turn over requested e-mails to the court.) These newer forms of electronic data are growing at rates of more than 50% annually and are located across a wide spectrum of devices. Most large companies will need to design ERR programs, implement far more extensive archival procedures and provide far more storage capabilities than before. (See "Electronic Discovery: Managing the Unmanageable," Aug. 28.)

VoIP. Low operating costs are speeding the migration to voice over IP. This technology supports a host of tools, including videoconferencing, unified voice mail and e-mail, and presence awareness (the ability to state one's availability and willingness to communicate). According to Bill McNee, president and CEO of Saugatuck Research, 70% of Fortune 2,000 companies will have at least one location that uses VoIP by the end of 2008. Implementation costs are high, however, and the process requires more time than most companies allocate. In addition, there are unresolved questions regarding security, reliability (such as dropped calls) and incompatibility because of a lack of standards. These issues can cause problems that require large amounts of technical resources to resolve.

Web 2.0 capabilities. Consumer-oriented Web capabilities (wikis, podcasts, social networking, mashups, etc.) are becoming increasingly important avenues for understanding and communicating with your customers and your workforce. Most IT organizations have not integrated these Web 2.0 capabilities into their corporate architectures. Many of the products are free, but integrating them into your infrastructure can be expensive and problematic.

Infrastructure. Over the past few years, IT organizations have focused on bringing down the cost of their infrastructures but not on reviewing their overall architectures. In fact, many companies haven't examined their architectures closely since Y2k. New systems and the issues discussed above will have a tremendous impact on the cost and effectiveness of your infrastructure.

As you anticipate IT spending for the next few years, include funding for these budget busters. Even if the actual costs won't appear right away, start planning now for the financial impact. Use the lead time to educate your executive team about the big-ticket items. With good preparation, you will need to do less explaining — and less arguing — at future budget reviews. ▸

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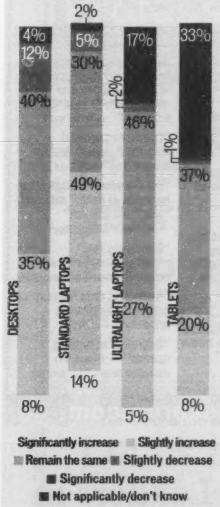

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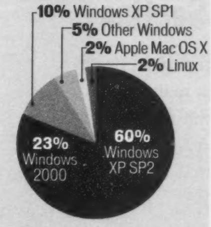

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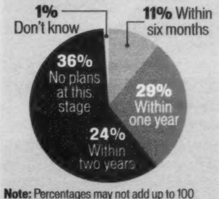

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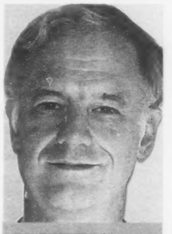

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E-waste. Disposal of PCs, printers, copiers and phones is becoming more difficult and expensive. The European Union's Restriction of Hazardous Substances regulations mandate strict disposal methods for lead and other hazardous electronic waste. Congress is considering similar measures, including the Computer Hazardous Waste Infrastructure Program Act and the Electronic Waste and Recycling Promotion and Consumer Protection Act. In addition to hardware recycling, companies would be responsible for completely erasing disks to ensure that company data is not compromised and that software licenses are protected. Proper disposal could easily cost $60 to $100 per PC.

Major application suite upgrades. Oracle and SAP are developing major new releases of their software. Although both companies promise to support current versions for several years, most customers will likely migrate over the next two to three years (or eventually face operating their businesses on unsupported applications). The inevitable migration process will be large, complex and costly.

Electronic records retention (ERR). Most organizations have records-retention policies for customer data, employee records and corporate data such as memos, presentations and spreadsheets. But fewer retention policies cover e-mails, instant messages, chat room exchanges, blogs, cell phone voice messages or voice mails embedded in e-mail. Capturing, organizing and storing this data is expensive, but it can be critical when legal issues arise. In the event of litigation, IT must be able to produce the electronic data and show that it is authentic and unmodified. (The stakes can be high. Morgan Stanley client Ron Perelman recently won a $1.45 billion judgment against the firm when it was unable to turn over requested e-mails to the court.) These newer forms of electronic data are growing at rates of more than 50% annually and are located across a wide spectrum of devices. Most large companies will need to design ERR programs, implement far more extensive archival procedures and provide far more storage capabilities than before. (See "Electronic Discovery: Managing the Unmanageable," Aug. 28.)

VoIP. Low operating costs are speeding the migration to voice over IP. This technology supports a host of tools, including videoconferencing, unified voice mail and e-mail, and presence awareness (the ability to state one's availability and willingness to communicate). According to Bill McNee, president and CEO of Saugatuck Research, 70% of Fortune 2,000 companies will have at least one location that uses VoIP by the end of 2008. Implementation costs are high, however, and the process requires more time than most companies allocate. In addition, there are unresolved questions regarding security, reliability (such as dropped calls) and incompatibility because of a lack of standards. These issues can cause problems that require large amounts of technical resources to resolve.

Web 2.0 capabilities. Consumer-oriented Web capabilities (wikis, podcasts, social networking, mashups, etc.) are becoming increasingly important avenues for understanding and communicating with your customers and your workforce. Most IT organizations have not integrated these Web 2.0 capabilities into their corporate architectures. Many of the products are free, but integrating them into your infrastructure can be expensive and problematic.

Infrastructure. Over the past few years, IT organizations have focused on bringing down the cost of their infrastructures but not on reviewing their overall architectures. In fact, many companies haven't examined their architectures closely since Y2k. New systems and the issues discussed above will have a tremendous impact on the cost and effectiveness of your infrastructure.

As you anticipate IT spending for the next few years, include funding for these budget busters. Even if the actual costs won't appear right away, start planning now for the financial impact. Use the lead time to educate your executive team about the big-ticket items. With good preparation, you will need to do less explaining — and less arguing — at future budget reviews. ▸

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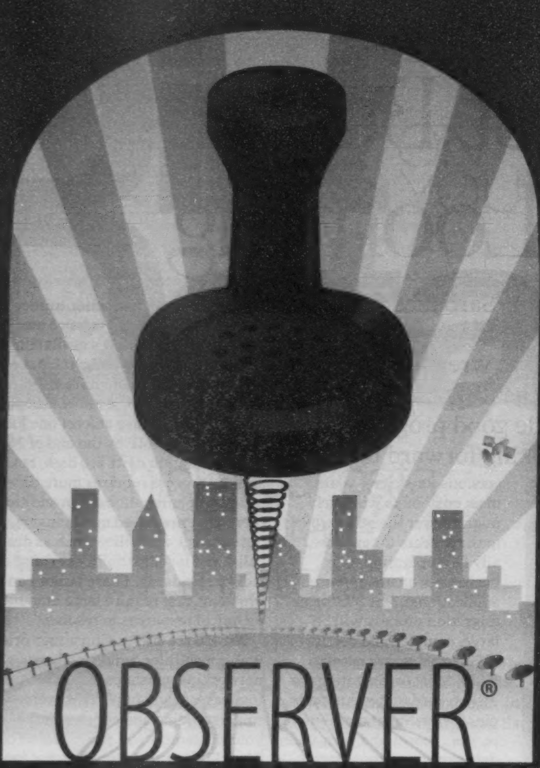

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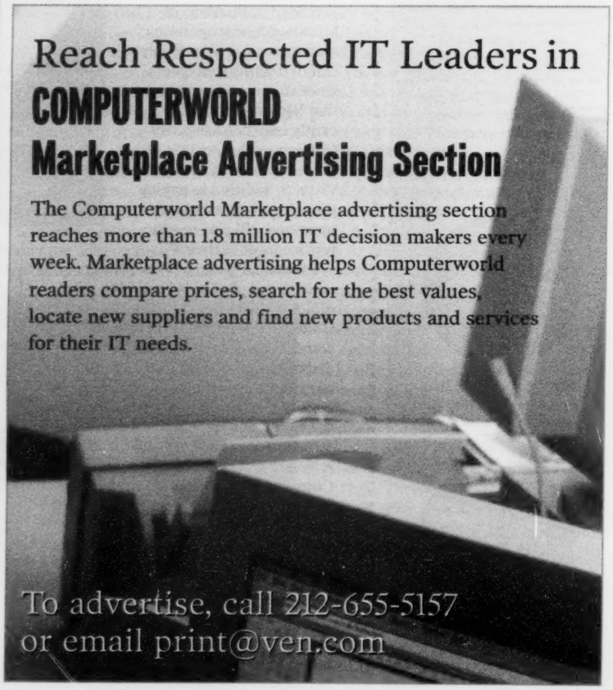
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Business Objects Adds SRC Software to BI Suite

Combined offering expected to allow both financial, operational analysis

BY HEATHER HAVENSTEIN

BUSINESS OBJECTS SA is set to announce this week that a line of performance management tools it acquired last year will be integrated with its own suite of business intelligence products.

The company gained the budgeting, planning and forecasting software in its $100 million purchase of SRC Software Inc. about a year ago.

The integrated product promises to let users analyze financial data and operational information using a single tool set, according to officials at Paris-based Business Objects. They also noted that adding the SRC software to the Business Objects XI tool suite will help the company sell products to organizations looking to whittle their lists of BI providers.

Deeper Analysis

Brent Day, assistant vice president at Zions Bank, said his company has been using the SRC tools for more than two years and is now installing the combined XI offering. He said he expects that the new tools will let users drill down to the transaction level of data from various sources as part of the process of evaluating financial performance.

"We haven't wanted to burden our planning system with the transaction-level detail from the general ledger system," Day said. "Now we are looking at some different ways to drill down to that data and really analyze performance and understand better where we sit financially."

In addition, he said, combining the performance management and business intelligence tools will allow the Salt Lake City-based company to analyze profitability. Analysis from mined data on products like checking and savings accounts can be merged with the financial data to provide information on profitability, he said.

Day also noted that "we need to understand not just the general ledger account-level details but [also] what products a given household may have."

Zions Bank expects to have the integrated Business Objects XI software in production by the start of 2007, Day said.

Jason Rose, director of planning marketing at Business Objects, said the updated XI business intelligence offering will include the full suite of SRC planning, budgeting and forecasting applications. It will allow companies to combine data from plans, budgets and forecasts compiled using the SRC tools with the reporting, dashboards, scorecards and data visualization housed in XI, Rose said.

Meridian Health, which operates three hospitals in New Jersey, has used a beta version of the integrated tool set and plans to put XI into production on Jan. 1, said Steve Esposito, corporate budget manager at the company in Neptune, N.J.

The biggest advantage to integrated tools, he said, is that the former SRC tools now support Microsoft Corp.'s Active Directory services. The Business Objects tool set already supported Active Directory.

"One of the beefs we always had [with the SRC tools] was we had to maintain a manual security system," Esposito said, noting that the integrated product will alleviate a lot of work now done by Meridian systems administrators.

SRC Updates

Features added to the SRC software integrated with Business Objects XI

- Eight new analytic measures in the dashboard, including data exploration analytics for trend analysis
- Expanded reports and dashboards available within supply chain analytics application
- Integration with Crystal Xcelsius Viewer for charting and graphing with planning and budgeting applications

Business Objects said that the integration of the planning software and the BI tools for data sharing is complete now; integration of centralized security management should be finished by December.

David O'Connell, an analyst at Nucleus Research Inc. in Wellesley, Mass., said integrating financial and operational data in the Business Objects tool set will allow users to get a more "apples-to-apples" comparison for managing financial performance.

"You are getting a single version of the truth, and all the pieces of the truth are emanating from the finance department," he said.

For example, O'Connell said, companies often have difficulty calculating profitability when they have different systems managing data about their subsidiaries, products and customers. ▸

Continued from page 1

NetBackup

software started shipping last October, three months after Cupertino, Calif.-based Symantec completed its $13.5 billion acquisition of Veritas Software Corp.

Mike Adams, group manager for NetBackup product marketing at Symantec, said there are about 36,000 NetBackup customers. He said that the total number of Version 6.0 users is unavailable but that "anecdotal evidence" indicates there has been "good uptake" from earlier versions so far.

Management Headaches

Other users interviewed for this story cited problems with NetBackup 6.0's Job Manager service, which accepts backup jobs and then runs them.

Phil Rand, a senior systems analyst and systems administrator at Seattle Pacific University and a user of Version 6.0, said that problems with the Job Manager function have significantly increased the time he spends managing the software.

The university has received binaries from Symantec in advance of Maintenance Pack 4 to help fix some of the problems, Rand said.

NETBACKUP 6.0

Reported Problems

- **Flaws in Vault Manager**
- **Flaws in Job Manager**
- **Faulty multistreamed backup capabilities**
- **Flaws in database backup and restore capabilities**
- **Problems managing software's Operations Manager and Security Services components**

Muhammed Shafi, a senior Unix administrator at Pactiv Corp., a manufacturer of packaged goods in Lake Forest, Ill., said it took Symantec more than a month to resolve a problem he encountered while starting to roll out the new version. Shafi said a multistreamed backup was able to restore files from only one stream.

In comparison, he said, Version 5.1, which the company previously used, could perform restores with multiple streams.

Mike Sponsler, a Washington-based Unix/Linux systems administrator at Northrop Grumman Corp. who migrated to NetBackup 6.0 from EMC Corp.'s Legato NetWorker, said he is "generally happy" with Version 6.0. He noted, however, that his company is having configuration problems with advanced features such as database backup and restore.

Sponsler also said the NetBackup Operations Manager, Veritas Security Services and Vault Manager components of Version 6.0 have been difficult to manage.

Adams contended that the number of bugs reported in Version 6.0 is not out of the ordinary for a release of its size. "Any time you come out with a big-scale release, over time, the same number of requests come in," he said.

Adams said he had not heard specifically of the issues raised by the users and did not know what problems Maintenance Pack 4 intends to correct.

Though some users may be holding off on upgrading from Version 5.1 to Version 6.0, Adams pointed out that Symantec typically sells a product for two years or until the next major release. Version 5.1 came out in June 2004, he said. ▸

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FRANK HAYES ■ FRANKLY SPEAKING

HP: No Surprise

WHY WAS I SURPRISED to hear that Hewlett-Packard spied on its own board members to find the source of a news story? I shouldn't have been. Last year, just after Carly Fiorina walked away with $21 million in severance pay, I ran a letter in my column from a demoralized HP employee. "After all these cost cuts, stealth layoffs, expense and travel reductions, no raises for years, no bonuses, here Carly walks away with all this money after basically running HP into the ground," the anonymous reader wrote. "Oh well, tap me on the shoulder for that workforce reduction — I'll take the severance, the unemployment, and have a nice rest."

A week later, an HP manager asked me, "Who was your source?"

At the time, I was more amused than offended. Of course, I didn't identify the source, whose only crime was grumbling without a license. And I wrote off the question as coming from a gung-ho manager who didn't realize how out of line it was — how completely contrary to everything that HP is all about.

Looks like I was wrong. Now we're learning that in January, HP Chairwoman Pattie Dunn hired outside investigators to track down a boardroom leak. The offending news story had reported on a marathon management retreat where HP executives and board members hashed out plans to use AMD chips, make more acquisitions, develop commercial printers and improve HP's internal technology for managing direct sales.

According to news reports, investigators lied to get the home phone records of the CNet reporter who broke the story. They also lied to get phone records of *New York Times* and *Wall Street Journal* reporters.

And, oh yes, they also lied to get home phone records for the members of HP's board.

Venture capitalist Tom Perkins quit the board in disgust when he found out. Then he refused to sign off on board minutes that claimed the board knew about the "pretexting" to get phone records. Now he's raising a stink that has reached the California attorney general, who's investigating what laws were broken and by whom.

Something else has been broken, though, for sure.

That's trust. Especially our ability to trust HP. For anything.

Look, there's something spectacularly wrong with the culture of a company that doesn't trust its own leadership. That's not just paranoia. That's despair.

And there's something even more wrong with a company that doesn't trust its own employees, the 150,000 people who actually do the work and make money for HP. That's a sign the rot has reached all levels of management.

Apparently, that rot is not new. Spying on members of the board is just the next logical step.

It's the new HP Way. "Management by walking around" has now been fully replaced by secrecy, suspicion and spying.

It's easy to say that Pattie Dunn should get the boot. And she should, if only because she has exposed HP to terrible publicity as well as potential criminal liability.

But that's only a tiny fraction of what's needed. HP has lost its way so completely that a new warm body at the head of the table won't help.

HP needs a values transplant. Hard as it is to believe, the company that once was the epitome of wise management in the IT business has become a corrupt, dysfunctional travesty of itself.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com**.

We need an HP with integrity. We need it because we can't afford to lose a valued partner, a trusted supplier, an industry leader.

But this mess called HP today? We can afford that even less. We know now that an HP that will chase after grumbling employees in 2005 will lie to get phone records of its board members in 2006.

And in 2007? Will we be hearing next year that HP is spying on major customers to make sure they haven't defected to the competition? I don't know.

But I won't be surprised. ▸

Fresh Out of Options

After troubleshooting a workstation's graphics problem without success, this IT pilot fish calls vendor support. "OK, let's reinstall Windows," vendor tech says. I've already done that, fish says. "Why don't you do it again with me on the phone?" says tech. I certainly know how to install Windows, fish tells him. "Well, let's try it anyway." Um, no – what's next? "Huh?" Let's pretend we just reinstalled Windows and it still doesn't work, says fish. What's the next step? "But reinstalling Windows is the last resort!"

SHARK TANK

Yep

Consultant pilot fish gets a call from a frantic customer. His network is down, and his boss wants to know why, pronto. Fish confirms that the routers and switches have been up for weeks. What exactly does "network down" mean? he asks. "We can't open Web sites," customer tells him. "Do you think it could be my ISP? Because I got an e-mail from them, something about scheduled maintenance today."

Nope

IT manager in charge of a data warehouse project issues a directive: Before the warehouse is populated, sales information must be cleansed and customers coded according to customer type and whether they have leased or purchased equipment. But the CFO nixes that. "She told us that cleansing the data was a waste of time, since it would just get dirty again," reports a pilot fish on the scene. "And coding customers by type of sale should always include the customer's full name." Why? "When she was a programmer 20 years ago, this was the normal method, and she sees no reason to change the process now."

Reckless

Junior programmer pilot fish isn't afraid to try new things – which makes fish's boss very nervous. "So for two years in a row, just before she'd leave on vacation, she'd emphatically tell me to not submit any changes while she was gone," says fish. "Both years, *she* submitted changes before she left that hit production Sunday night. Untested. Both years, she returned to find that I'd fixed her errors. When she announced her vacation the third year, I found another job."

Why Chance It?

Corporate internal auditor is auditing this IT shop's disaster recovery plan, reports a pilot fish helping him out. "I show him our policies and procedures on the matter," says fish. "He looks everything over and then looks me in the eye and asks why I am not backing up the Internet."

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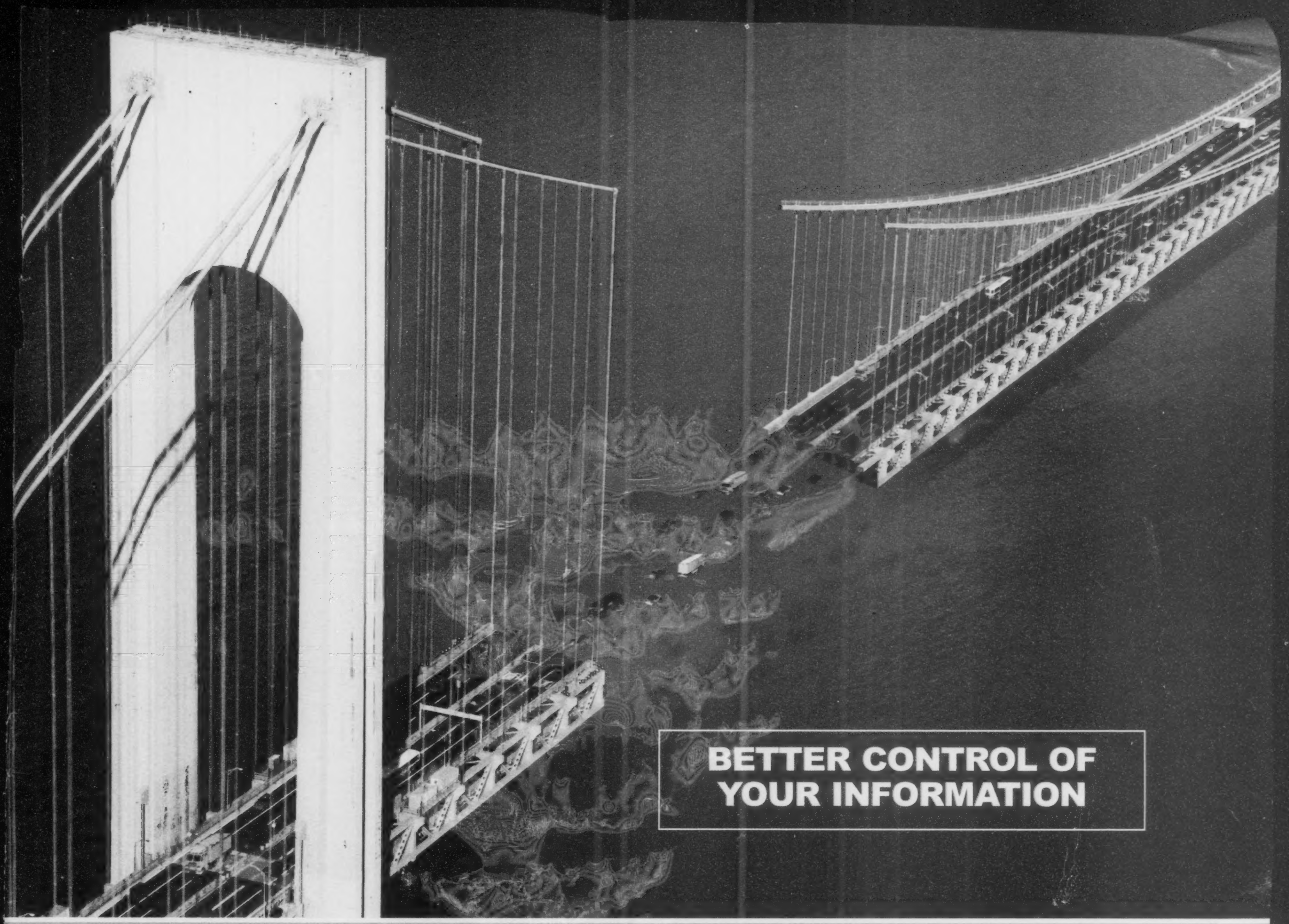

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